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Disease Resistance of Potatoes

By.

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Experiment farm and buildings are on the Williston road, adjoining the University grounds on the east.

BULLETIN 122-DISEASE RESISTANCE OF POTATOES

WM. STUART

Since the publication by the writer in May, 1905, of the results of a somewhat limited study of disease-resistance of potatoes, the scope of the work has been greatly enlarged through co-operation with the United States Department of Agriculture. Through this agency the Station has become the recipient of an extensive collection of European and American varieties, selected largely on the recommendation of originators, seedsmen and potato specialists as possessing powers of disease-resistance. The European varieties were collected by the station botanist, acting as field agent of the Bureau of Plant Industry of the National Department. During the summer of 1904 he personally visited the larger English and continental growers, studied the character of potato maladies with special reference to diseaseresistance, and has embodied the results of his observations in a departmental bulletin.2 The larger part of the American varieties were selected as a result of replies to a circular letter of inquiry issued to originators, seedsmen, etc. The present report is one of progress only, and not a final expression of opinion as to the resistant or non-resistant qualities of any variety. While the work has been directly under the writer's charge, he is deeply indebted to his associate the station botanist for helpful suggestions as to details.

OBJECT AND SCOPE OF THE TRIALS

The study of disease-resistance was of a three-fold nature. It had to do with the resistance of:

- 1. The vines to blight:
- 2. The tubers to rot:
- 3. The tubers to scab.3

The seed was planted on two distinct types of soil, a light sandy loam and a heavy clay loam, the more thoroughly to test the varieties. The latter soil subjected the tubers to unfavorable conditions as regards rot, which, owing to the frequent September rains, were accentuated, affording an unusually good opportunity to study the influence of soil upon the development of potato rot.

The several varieties in the collection were given field numbers from 500 to 653 inclusive. Nos. 500 to 518 inclusive were secured from Germany; 519 to 523 from Holland; 524 to 529 from France; 530 to 598

¹Vt. Sta. Bul. 115 (1905).

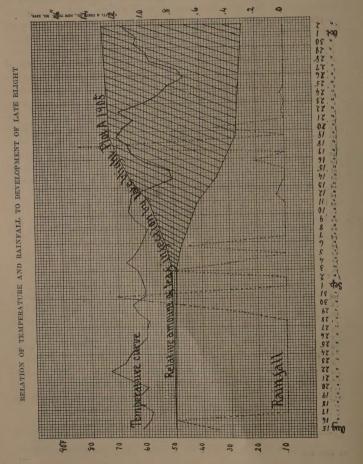
²Jones, L. R. Disease-resistance of potatoes. U. S. Dept. Agr., Bu. Pl. Ind., Bul. 87 (1905). Abstracted in Vt. Sta. kpt., 18, pp. 264-267 (1905).

The data in hand as to scab resistance is not such as warrants discussion at this time.

from England and Scotland; 599 to 653, with the exception of 636, from Canada or the United States. Nos. 1 and 9 were also American varieties.

CULTURAL DETAILS

The sandy loam piece was planted May 22-23, using the full collection of European and American varieties. Only about half of the varieties were used on the clay loam, owing to lack of seed or its poor



condition, planting being done on May 29. The tubers were planted about three inches deep and three feet apart each way. Both fields were in good tilth and were given four horse cultivations and two hand hoeings during the growth of the crop. The vines were sprayed early in the season with arsenate of lead or paris green, and later received dry applications of paris green and air-slaked lime mixed in the proportion of one to twenty.

DISEASES OF THE VINES

Frequent and careful observations were made as to the presence of fungous diseases and the relative amount of infection from each.

EARLY BLIGHT

More or less evidences of early blight (Alternaria solani) were found on some of the varieties on the sandy loam, but on none did it do material damage, 12 percent being the highest recorded amount of affected foliage. In most cases the harm done was but slight. No notes were taken as to the occurrence of early blight on the clay loam, hence there is no corroborative data to indicate whether varieties having from 10 to 12 percent of foliage affected were really more susceptible, or whether the result was more or less accidental. These data appear in Table I, pages 122-124.

TIP BURN

Tip burn occurs almost every season, but is usually more abundant when the climatic or soil conditions are unfavorable to the best development of the plant. It is primarily due to a physiological derangement of the nutritive system of the plant, is first evidenced by a wilting and yellowing of the tip of the leaf and ends in the drying up and blackening of the affected cells. This malady is not apt to involve more than one-third of the leaves, save in severe cases. Several of the varieties on the sandy loam suffered more or less, yet, while more in evidence than was the early blight, it was seldom sufficiently severe to cause material injury. The maximum estimate of affected leaves—40 percent—was recorded for Acme and Ninety-fold, both English varieties. The Acme plants were propagated in the greenhouse and transferred to the open field. It is not unlikely that the check received in transplantation induced physiological derangement of the plant, thus tending to an increase in the amount of tip burn.

LATE BLIGHT

Late blight (*Phytophthora infestans*) was first seen about August 10 on Delaware and Green Mountain foliage. It spread so slowly that it was not considered an appreciable factor until some five days later.

Estimated	percent of Foliage Affected by Late Blight, Plot A
647. Sunset.	
649 Atexander's No. 7	
580.DuchessofCornwall 59/British Queen.	
692. Royal Kidney 619. Million Dollar	
634. Babbitt	
640 Alexander's No. 10.	
643Alexanders No 50.	
644AtexandersNo/W 65/A) exanders Seedt:	
635 Unknown Variety	
58/Factor	
593 Empire Kidney 595 Good te Ilow	
596Up-to-Date 626Star of East	
627 State of Maine	
630Westfield	
632 White Scotch King 639 Orlando	
645 Havanna 646 Maule's Reliance	
646Maule's Reliance	
5/5 Leo 540 Factor	
36/Sir.Ihos. Lipton	
572Up-to-Date 579DumfriesModel	
625 Sir. Walter Raleigh	
636 S. Commersonii	
543 Tyne Kidney 502 Dabersche	
542Langworthy	papandini magaman maga
542L angworthy 544 Table Talk 564Heather Blossom	
578 Monarch	
586L angworthy	
628 Swiss Snow Flake 633 Unnamed Pink	
642 Passadena	
648Alexander's No. 4 534 Windsor Castle	
529QuarantainedelaHille	
538 Gramond Blossom	
546Crotter 547 Scottish Queen	
594 Evergood	
597 Northern Star	
621 Orange Blossom 629 Vermont Gold Goin	
631 White Beauty	ANTANA PARA ANTANA BENEFICA A PARA PARA SANCE STATEMENT AND A PARA SANCE SANCE STATEMENT AND A PARA SANCE SANCE SANCE SANCE SANCE SANCE SANCE SANCE SANCE SA
650Alexander's Seed	
520Landskroom	
582 Improved Kidney	
618 Norcross 506 Prot. Maerker	
507 Silesia	
509 Mohort	
510 Gastold 610 Blight Proof	
522 Malador	
535 Discovery 550Pink Blossom	
608 Enormous	
620 Norcross	
638Washington 537KingEdwardVII	
511 Pres. Kruger	
5/6FuerstBismark	
545DalmenyKidney 570 Evergood	heretored notations of the control o
\$73 Northern Star	

\$38 Nays Kaley \$48 Days Kaley \$58 Craman Busin \$59 Craman Busin \$50 Craman Busin \$5	374 British Queen	<u> </u>
## STORE NOTE OF THE PROPERTY	588 Royal Kidney	
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\$\$\$ Parace Maries \$\$\$ Stayline Basson \$\$\$ Stayline Basson \$\$\$ Stayline Basson \$\$\$\$ Stayline Basson \$\$\$\$ Stayline Basson \$\$\$\$\$ Stayline Basson \$	549 Northern Star	
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506 Max Eyth 563 Ama 667 Does Pride 644 Innia Geoding 644 Innia Geoding 645 Supreme 535 Supreme 535 Supreme 643 Holdsendburdses 643 Holdsendburdses 643 Holdsendburdses 643 Holdsendburdses 643 Suthendquen 655 Suthendquen 656 Suthendquen 656 Radium 656 Placenery 657 Apail 677 Late Bighless 505 Inne 517 Apail 677 Late Bighless 505 Inne 517 Apail 678 Latendburdses 642 Quick Lunch 658 Supreme 658 Supreme 658 Supreme 658 Submissery 658 Supreme 658 Submissery 658 Supreme 658 Submissery 658 Supreme 658 Submissery 658 S	600 Murai Blush	
\$65 Arms 607 Dois Pride 644 Insis Seedling 645 Insis Seedling 783 Supreme 783 Supreme 783 Supreme 783 Supreme 783 Supreme 783 Supreme 784 Supreme 785 Supreme 785 Supreme 785 Suthern Queen 785	508 Hay Futh	
607 Dois Pride 648 Inia Seading 646 Neaper 928 Supreme 928 Carly Rose 900 Gebeing 178 179 188 188 188 188 188 188 188 188 188 18	563 Acria	
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575 Fidier Stelling 58 F. Duke of Wildenay 58 P. Duke of York* 59 Empres Queen 603 Glarks Pride*	567 Ideal	
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587 Duke of York" 590 Empres Ausen 603 Clarkis Prido"	584S.J.Llewellum	
590EmpressQueen 603Glark's Pride*	587 Duke of Hatheray	
603 Clark's Pride"	SOF THE OF YORK	
6/5 (rich Cobbler)	603 Clark's Pride*	
	6/5 Irish Cobbler	

In fact this disease made little headway during the remainder of August, the weather conditions not being propitious to its development. (Note Table II, temperature and rainfall August 15 to October 2, page 124, and Chart I, page 108, illustrating their fluctuations as well as the rate of progress of the late blight). In early September, however, owing to frequent rains the fungus became abundant and the malady unusually virulent. From that time on to the close of the month its ravages were seen on all vines susceptible to infection which were not protected by fungicides. The appearance of the experimental plots during this period was extremely interesting, because of an occasional variety whose vines apparently possessed marked resistant qualities, standing out a mass of green amidst the dying foliage of other varieties.

Two sets of observations on blight resistance were taken; one, a rough eye estimate of the relative percent of green vines, the other, a careful examination of the foliage in order to estimate the relative percent of leaves affected by late blight,-no small task when over 150 varieties, each having 35 plants, are involved. The first method, though a less accurate index of the character and amount of disease present, may and often does indicate more clearly the extent of foliage injury, thereby enabling one the more readily to estimate the relative susceptibilities of each variety. Such a determination, however, presupposes the taking into account of the normal ripening period of each variety under observation. Some of those under survey were normally early maturing varieties, and for the purposes of experimental study in connection with late blight and rot should not be included. In Tables III and IV, pages 125-128, showing percentages of vines remaining green at various dates on both soils, the early maturing varieties are marked *, the medium early or second early varieties t, and, four varieties, which on account of a limited amount of seed were started in the greenhouse, ‡. The results attained with varieties thus marked should not be compared too rigidly with those obtained with later maturing ones or those grown under normal conditions.

An examination of the data in the tables just referred to shows that, barring Rust Proof, all the varieties showing relatively high disease-resistance were of German and Dutch origin.

The ten varieties showing greatest resistance to disease without particular reference to late blight, were:

Rust Proof,*

Max Evth.

Mohort.

508

ON SANDY LOAM	· ON CLAY LOAM
Field number and name	Field number and name
517 Apollo,	517 Apollo,
501 Sophie,	512 Prof. Wohltmann,
512 Prof. Wohltmann,	507 Silesia,
505 Irene,	501 Sophie,
508 Max Eyth,	511 Pres. Krüger, .
523 Daisy,	516 Fuerst Bismark,
500 Geheimrat Theil,	523 Daisy,

516

Fuerst Bismark.

Pres. Krüger

Eureka.

Apollo stood at the head of the list on both soils, Prof. Wohltmann third and second, and Sophie second and fourth. For some reason Silesia on the clay showed much greater disease-resistance than it did on the sandy loam.

LEAF INFECTION WITH LATE BLIGHT

Table V, on pages 129-131, affords somewhat confusing data. In almost every instance in which no affection was observed, the variety is an early or medium maturing one. It is especially interesting to note in this connection that Apollo shows very little actual infection by late blight. Five of the ten varieties showing high vine resistance to fungous diseases had 20 percent or less of their foliage infected by late blight. Mentioned in order of leaf infection they are as follows: Apollo, 5 percent; Daisy, Prof. Wohltmann, 10 percent; Max Eyth, Sophie, 20 percent.

Eleven varieties were estimated to have 95 percent or more of their foliage thus affected, being: Sunset, 97 percent; Alexander's No. 7,2 96 percent; Duchess of Cornwall, British Queen, Royal Kidney, Million Dollar, Babbitt, Alexander's No. 10,2 Alexander's No. 100,2 Alexander's Seedling, 95 percent.

Babbitt and Million Dollar (American varieties) were said to possess some disease-resistant qualities. A 95 percent leaf infection hardly bears out this claim. The relative percent of leaf infection is also graphically shown in Chart II on pages 110-111.

That the varieties Apollo, Prof. Wohltmann, Sophie, Daisy and Max Eyth are strongly disease-resistant is clear. (Duplicate data tables III, IV, on the relative resistance of the vines to fungous diseases; table V and Chart II, observed late blight leaf infection).

^{*}Rust Proof was not included in the varieties planted on the sandy soil.

Of English and Scotch origin; all others of American origin.

²Seedlings not as yet regularly offered to the trade. They should, perhaps, not be seriously considered in this connection.

	Percent of Rot on Sandy Soil Plat A 1905
639 Orlando	
632 White Scotch King 627. State of Maine	
640, Olexander 310 10	
603, Clarkes Pride	
648, Gem	
638, Washington	
GOLGEVINE'S Lightning	
647, Sunset	
618 Moreross	
644, alexanders Mo100	CHENKINITERINI PERMURUKUN
635, Unknown var.	
626, Star of East	
645, Havanna	
649, Olexanders No.7	
608 Enormous	
629, Vt. Gold Coin	
625, Sir Walker Raleigh	
585,CramondBlossom 61 (GreenMountain	
526, Early Rose	
525, Brandale	
606 Delaware 547 Scottish Queen	
540, Factor	
620, Morcross	
576,CharlesFidler 630,Westfield	
619, Million Dollace	
601, Buggalo, 609, Germog Octoostook 634, Babbitt	
634. Babbist	
638, White Blassom	
610, Blight Proof	
577.Snowball	
529 Quarant de la Halle	2-20-11-11-2-2-2-3 4-2-3-1-11-11-11-11-11-11-11-11-11-11-11-11
643 (Alexander's Yo. 20 65 (Alexander's Seedling	THE PARTY OF THE P
627 Chave (Shaw)	
LILLECAL Prope	
564.Heather Blossom 633.Unnamed Pink	
1.21 White Basses	Bangiagan of the control of the cont
613 Holborn Brundance	
612, Haxis Snowball 569 Minety-gold	
573 Morthern Star	
622, Quick Trunch	14:18101
537, King Pdwaxd VII 519 Drum grie b Model	
536 Sir John Llewellyn	
572 Up-to-Date 556 Southern Queen	
581, Pactor	
617, Take Blightless	
636, S. Commersonii	
587. Duke of Rothesse 546. Grogber	
583, King Edward VII	
596, Up-to-Date 500 Rink Blossom	
565 Discovery	
565 Discovery	
56/Sir.Thos.Lipton 548, Premier	
557, Webber's Early	
580 Duchess of Cornwall	
653, Ruxal Blush - 53 & Cramona Blossom	

54 British Queen
541 Duke osfork
543 Tyne kidney
543 Tyne kidney
542 British Strangale
552 Dahmeny Red
561 Zheal
562, Radium
511, Pres. Krüger
505, Richtertsingrame
601 Does Pride
578 Bildek Zuillet
465 Dakarbara
497 Duke os Linyk The infection of *S. Commersoni* by late blight is corroborative of observations made by other American investigators¹ last year, and shows that the immunity claimed for it by M. Labergerie and others is is not well founded; or that at least it does not apply to our conditions. As viewed by the writer, this species has but little to commend itself to the plant breeder unless some of the various sports that have emanated from it sustain the claims made for them by those with whom they have originated.

DISEASES OF THE TUBERS

ROT RESISTANCE

While it is, of course, eminently desirable that varieties be secured having marked vine resistance to fungous diseases, it is of still greater importance to obtain those possessing marked tuber resistance to rot. Vine resistance does not in every instance mean tuber resistance. This fact is well illustrated by Rust Proof. Neither does vine infection by the late blight fungus necessarily entail serious tuber rot. As a rule vine and tuber resistance are correlated; but there are numerous exceptions to the rule,

In order to study this relationship a careful examination of the tubers was made as soon after digging as possible and the percentage of rot determined. These data (Tables VI and VII, pages 131-133, graphically shown in Charts III and IV) indicate that the varieties which show the greatest late blight infection of the leaves (see Table V, pages 129-131) were not the worst to rot. This is especially true of the three British varieties. On the sandy soil Orlando, ¹ White Scotch King, State of Maine, Alexander's No. 10,² and Clarke's Pride were the least resistant to rot, followed closely by Gem,² Alexander's No. 4,² Washington,² Crine's Lightning and Sunset.²

On the clay soil Chave (Shaw), Early Rose, Unnamed Seedling, Ionia Seedling, Quarantaine de la Halle, Brandale, Green Mountain, Duke of York, Gem of Aroostook, and Vermont Gold Coin head the list in the order named as the least resistant to rot. The first, second, fifth and sixth named were of French origin, while Early Rose, though a variety of American origin, was of French grown seed. Ionia Seedling was claimed and advertised by its introducer, E. F. Dibble of Honeoye Falls, N. Y., to be blight proof. There were but three varieties on the clay and but ten on the sandy loam which showed a larger percentage of rot. A variety showing 84 percent of rot can hardly be claimed as disease-resistant. It is interesting to note that many

¹J. R. Lawrence, N. E. Farmer, Feb. 24, 1906, p. 4. Hiram Presley, Port Huron, Mich., in personal letter Dec. 18, 1905.

 $^{^{\}circ}$ Received for trial from O. H. Alexander, Charlotte, Vt., without special commendation as to disease-resistance.

of the varieties which rotted badly are early maturing. Such would naturally be expected to show considerable freedom from rot. Four of the six which proved inferior in this respect are early maturing varieties. Apollo, Daisy, Prof. Wohltmann, Mohort, Irene, Max Eyth (German varieties) and others showing marked vine resistance were comparatively free from rot.

The following list displays the American varieties showing the greatest resistance to rot on the sandy and the clay loams. Five varieties appear in both lists, thus giving some evidence that they do possess a certain degree of disease-resistance to rot:

SANDY I	JOA M	(CLAY LOAM	
Field	numi	ber and name	Field num	iber and name
	637	Alexander's No. 1 Red,1	616	Keeper,
	616	Keeper,	654	June,
	599	American Wonder,	605	Dakota Red,
	615	Irish Cobbler,2	607	Doe's Pride,
	605	Dakota Red,	627	State of Maine,
	607	Doe's Pride,	617	Late Blightless,
	653	Rural Blush,	613	Holborn Abundance,
	623	R. N. Y. No. 2,	599	American Wonder,
	617	Late Blightless,	619	Million Dollar,

RELATION OF SOIL TO ROT

628

Swiss Snowflake.

Quick Lunch.12

The frequent rains of the early fall favored the spread of late blight and rot, while the selection of a rather light sandy loam and of a heavy moist clay soil enables under the circumstances a good comparison. Tables VI and VII, pages 131-133, and, more particularly, graphic Charts III and IV, show clearly that the tubers were much more subject to rot on the clay than they were on the sandy soil. The average percent of decayed tubers in 89 varieties grown on both soils was less than 9 percent on the sandy loam as against 40 percent on the clay loam. In other words, there was over four times as much rot on the clay as there was on the sandy soil. Clearly, heavy moist clay land should not be selected for potato culture where lighter loams are available.

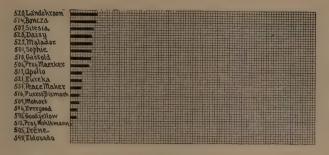
COMPARATIVE ROT RESISTANCE OF EUROPEAN AND AMERICAN VARIETIES

The evident high rot-resistant qualities of most of the German
and Dutch varieties seemed to invite a closer study of the comparative resistance of the varieties as a whole from different sources. As
a result of this analysis of the data presented in Tables VI and VII,

¹Not grown on clay soil.

²Early maturing varieties.

Percent of Rox on Clay Soil - Plot B 1905 527, Chave (Shaw) 526, Barly Rose 685, Umnamed Stedling 529,Quazantdela Halle 525,Brandale 611, Green Mountain 632, White Scotch King 54 Duke of York 609 Gemostrootook 619 Vermont Gold Coin 612 Harris Snowball 604 Crine's Lightning 620 Horress 606 Delaware 601 Bussalo 9 Rust Proof 536 Sir John Thewellyn 600. Bass. 603 Glarkes Pride 618 Morcross LOS Enormous
531, Minery-fold 631, White Beauty 625, Sir Walker Raleigh 538, Cramond Blossom 540, Pactor 602, Cambridge Russet 658, Rural Blush 621, Orange Blossom 624, Scale Proof 626, Star of East 544, Table Talk 543, Tyne Kidney 524, Belle de Fontenay 502 Daversche. 630 West gield 550 Pink Blossom 537, King Edward VII 610 Bit ght Props 633, Unnamed Pink 623, RMY, No. 2 615, Irish Coulter 628,5WissSnowflake 619, Millian Dollar 579 American Worder 528,Belle de Juille & 605 Dakota Red 596. Up-to-Date 617 Late Blightless 627, State of Maine 591 British Queen 607 Does Pride 1, Dakota Red 534, Windsor Castle 654, June 503Richter's Imperato 533. Supreme 518 Bellyl-sp. Kentogel 549 Northern Star 519, Eigenheimer 511 President Krüge 508 Max Eyth 542 Langworthy 532 Epicure 515, Leo 515, Led 535, Discovery 530, Ceheimtar Theil 504, Magnum Bonum 593, Empire Kidney 614, Keeper 571, Royal Kidney 652, Prog. Maerker 613, Topas



it was found that on both the sand and clay soil the Dutch, German and English-Scotch varieties showed much less rot than did the French and American varieties, the proportionate amount of rot on the sandy soil being in the order mentioned. On the clay soil the only change was in the American and French, the latter showing most rot. The average percentages of rot as presented below shows quite clearly that the rot-resistance of the Dutch and German varieties is decidedly superior to that of the others tested. While the English-Scotch varieties show considerably more rot than the Dutch and German, the amount is only approximately one-half of that found in the French and American varieties. The high percent of rot in French and American varieties would seem to indicate that American growers at least have not so seriously considered the question of disease-resistance in the production of new varieties. In other words, American varieties have not thus far been bred for disease-resistance.

Source of seed Sandy soil	Clay soil	Average
Holland	10.8%	5.6%
Germany 1.4	13.9	7.7
Scotland 2.9	34.1	18.5
England 4.9	31.3	18.1
France	73.1	37.2
America20.	55.1	37.6

CHARACTER OF VINES AS RELATED TO FUNGOUS DISEASES

In general, varieties having a strong, woody, moderately branched upright haulm and medium sized, rather thick, more or less crumpled, firm, hairy leaves were found more resistant to disease, especially late blight, than those possessing rather weak, partially woody, much branched, decumbent haulms, with rather large, thin, smoothish, soft leaves. In brief, varieties having an upright habit of growth, moderately branched, with firm, hairy, medium sized leaves,

are much more likely to prove resistant to late blight than are those with large smooth, flabby leaves and decumbent stems.

ADDITIONAL VARIETAL STUDIES IN 1905

A few varieties were grown in continuation of the work outlined last year on another piece of ground. These varieties consisted of about a dozen of named cultivated ones grown the previous season; some 50 seedlings selected from over 500 grown in 1904; and a large number of seedlings of S. polyadenium, S. verrucosum? S. tuberosum? (wild species) and plants from tubers of S. stoloniferum, S. maglia and S. etuberosum.

CULTURAL AND SOIL NOTES

The seedling varieties were started in the greenhouse and potted off and transplanted to the open ground in the usual manner. The same treatment was also accorded to S. maglia and S. etuberosum, owing to the fact that a very limited number of tubers were received. With these exceptions the plot was planted on May 27 and the plants received about the same treatment as was accorded to those on the sand and the clay soils.

The soil used in these supplementary trials was of a rather coarse gravelly clay loam, quite retentive of moisture. Although on somewhat high land, its northern exposure, with prevailing moist weather, furnished very favorable conditions for the infection of vines by late blight and of tubers by rot.

LATE BLIGHT INFECTION

The late blight did not appear quite as early as on the other fields, but when it did start it was as virulent an attack as that on the clay loam piece. No attempt was made to estimate the damage of foliage affected by the late blight fungus, but observations were taken on the apparent resistance of the vines as indicated by their greenness. The data secured from these notes appear in Table VIII. Only six of the selected seedlings from the 1904 crop are included, since these only show well-marked disease-resistant qualities of vine.

Discovery and Rust Proof stand out quite prominently among the cultivated varieties; June shows about the same resistance as in 1904, and somewhat greater than it did on the moist clay loam; Mexican did not do as well as in 1904. S. stoloniferum, as in previous trials, proved a weak grower and seems to offer little promise of being useful in increasing the vigor of cultivated varieties by hybridization. S.

¹Vt. Sta. Bul. 115 (1905).

²Received from Sutton & Sons, Reading, Eng., and the Kew Gardens, Kew, Eng.

³Collected in 1904 by Mr. C. G. Pringle, to whom the writer is indebted.

polyademium, S. verrucosum, and the wild species of S. tuberosum were not affected by the late blight, and, so far as observed, although no insecticides were used on them, they were not troubled by the Colorado or flea beetles. Tubers were produced very sparingly on S. polyadenium and S. tuberosum in the field, and none at all on S. verrucosum, although it is supposed to be a tuber-bearing species in its native habitat.

The value of these species, if any, in the development of diseaseresistant varieties, lies wholly in the possibility of hybridizing them with some of the most promising cultivated ones. The percentages of rot were noted and appear in Table IX, page 134.

RELATIVE SUSCEPTIBILITY TO BOT OF TUBERS FORMED DEEP OR SHALLOW

In an editorial in New England Homestead of March 3 last, Mr. I. N. Isham is quoted as claiming greater susceptibility of tubers to rot when formed near the surface of the ground and advocating hilling up around the plants at the last cultivation, the idea being to cover the newly formed tubers with soil to a depth of four or more inches. The claim is advanced that when such cultural care is given, the tubers are not as subject to rot, because of lessened likelihood of infection from the fungus spores falling upon the surface of the soil. The writer cannot at present either affirm or deny the statement, but from observations made upon deep and shallow tuber-forming varieties the past season, the indications are that there is no very definite connection between the extent of the rot and the depth at which the tubers are set. Out of 57 varieties showing good rot-resisting qualities, 45 were shallow and 12 deep forming tubers: while out of 31 varieties showing over 40 percent of rot on the clay soil, there were 21 shallow and 10 deep. The latter showing apparently favors the deep tuberforming varieties, but there were 104 shallow tuber-forming varieties and 50 deep tuber-forming ones included in the test, hence the proportion is practically the same—about 20 percent in each case.

Notwithstanding this apparently negative evidence the subject is one which is worthy of careful study. Deep planting of seed tubers, say from four to six inches, may tend to lessen tuber infection from late blight. The presumption at least seems to be a logical one. It is believed, however, that while depth of soil covering may be a factor in inducing or preventing rot, it is but a minor one. The primal cause must be regarded as a greater predisposition of the tubers of one variety over those of another to the attack of the fungus.

Disease resistance is important; but commercial standards are based on prolificacy, appearance and edibleness, qualities in which the German and Dutch varieties are not pre-eminent, as judged by one year's trials and by American standards. The writer does not at present recommend them to American growers.

TABLE I. PERCENT OF LEAF INFECTION WITH EARLY BLIGHT AND TIP BURN, SANDY LOAM SOIL, 1905

Field Number and Name			AUG.	15	AUG.	21	AUG.	30
Sophie	P'I	ELD NUMBER AND NAME ¹	Early blight	Tip burn		Tip burn		
Sophie		Geheimrat Theil		5				7
Solid Ferical Content Solid So		Sophie						5
Solid Ferical Content Solid So		Dabersche		2	2	3		
Solid Ferical Content Solid So		Richter's Imperator	1.5		2	2		. 5
506 Prof. Maerker		Magnum Bonum	. 3		5			
Signature		Bred Marshau						5
508 Max Eyth 7 10 509 Mohort 3 6 10 510 Gastold 2 2 7 511 Prof. Wohltmann 2 2 4 511 Program 5 8 8 25 514 Boneza 5 8 8 25 514 Boneza 3 10 15 515 Leo 3 1 10 15 515 Leo 3 7 10 15 10 15 11 10 15 11 10 115 10 115 10 115 10 115 10 115 10 115 10 115 10 115 10		Silogio						_2
Solid Gastold Solid So						G		
510 Gastold 512 Prof. Wohltmann 2 2 4 7 7 7 7 7 7 7 7 7		Mohort						TO
15		Gastold	U		· ,	9		* *
15	512	Prof. Wohltmann			2	2	• •	4
15		Pres. Krueger				2		4
15		Topazt		3	8	8	- 11	$2\tilde{5}$
Display		Boncza		3		10		15
Signature Sign					2	2		2
Signature Sign					3	7		10
Depth		College de Maria College			8			. 7
Depth		Eigenheimer*		* *				
Substitute		Landekroon			• 5			
522 Malador 10 15 523 Dalsy 2 2 524 Belle de Fontenay* 2 12 2 525 Brandale* 5 5 5 526 Early Rose* 15 10 20 527 Chaye (Shaw) 15 10 20 528 Belle de Juillet 5 12 15 12 529 Quarantaine de la Halle 5 10 10 12 531 Ninety-fold* 5 10 10 12 532 Pugrantaine de la Halle 5 10 10 12 531 Ninety-fold* 5 10 10 12 532 Discovery 5 10 10 10 534 Supreme 5 10 12 10 535 Discovery 5 10 12 10 12 10 10 12 10 10					9 6	17		22
523 Dalsy 2 2 2 524 Belle de Fontenay* 2 12 2 525 Brandele* 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 10 10 2 8 1 2 2 8 1 2 2 8 1 2 2 8 1 2	522					iò	• •	15
Brandele		Daisy			2		• • •	20
Brandele		Belle de Fontenay*			$\bar{2}$			
15	525	Brandale*			5			- 11
Chave (Snaw) 2 8 5 5 5 5 5 5 5 5 5	526	Early Rose*						20
Description	527	Chave (Shaw)						
531 Ninety-fold* 5 10 10 2 532 Epicure* 5 10 12 10 10 12 10 10 12 10 10 12 10 12 10 12 10 12 10 12 10 12 12 10 12 10 12 10 12 12 10 10 12 10	520	Ougrantaine de la Hellet	. 5		12			
532 Epicure* 5 10 10 533 Supremet* 3 10 8 10 534 Windsor Castlet* 3 10 8 10 10 535 Discovery 5 10 112 536 Sir John Llewellyn* 5 15 15 537 King Edward VII 5 15 537 King Edward VII 5 10 15 538 Chas. Fidler 2 2 5539 Chas. Fidler 2 2 5549 10 8 5440 Factor 10 8 5440 Factor 10 8 5440 Factor 10 8 5441 Duke of Vork 5 12 3 5441 Subsort 3 5442 Call Type Kidney 3 5442 543 Type Kidney 3 5442 543 Type Kidney 3 5442		Ninota fold*					• •	2
533 Supreme† 3 10 8 10 534 Windsor Castle† 2 2 10 536 Discovery 5 10 12 536 Sir John Llewellyn* 5 15 15 537 King Edward VII 2 6 10 538 Cramond Blossom 2 2 2 540 Factor 10 8 5 540 Factor 10 8 5 542 Langworthy 3 5 5 542 Langworthy 3 5 5 543 Tyne Kldney 3 5 544 Table Talk 1 2 545 Dalmeny Kldney 3 5 546 Crofter 2 2 547 Scottish Queen 1 2 548 Premier 1 2 549 Northern Star 2 3		Enicure*	9 5		10			
534 Windsor Castle† 2 10 535 Discovery 5 10 112 536 Sir John Llewellyn* 5 15 15 537 King Edward VII 2 2 2 538 Cramond Blossom 2 2 3 540 Factor 10 8 5447 541 Duke of York 5 10 8 5441 Duke of York 5 10 8 5441 Duke of York 3 5441 Duke of York 3 5451 Duke of York 3 5451 Duke of York 3 545 Dumeny Kidney 3 545 Dumeny Kidney 3 545 Dumeny Kidney 3 545 Dumeny Kidney 1 2 545 Dumeny Kidney 1 2 547 Soctish Queen 1 2 548 Premier 1 2 548 Premier 1 2 548 Premier 1 2 549 Premier 1 2 549 Premier 1 2 549 Premier 1 2 549 Premier 1 2		Sunremet	2		iò			10
10		Windsor Castlet				9		
536 Sir John Llewellyn* 5		Discovery		5				
Sage Standard VII		Sir John Llewellyn*	5					
539 Chas. Fidler 3 540 Factor 10 8 541 Duke of York 5 3 542 Langworthy 3 5 543 Tyne Kidney 3 5 544 Table Talk 1 2 545 Dalmeny Kidney 3 5 546 Crofter 3 5 547 Scottish Queen 1 2 548 Premier 1 2 549 Northern Star 2 3 550 Plnk Blossom 10 5 551 Peace Maker 2 6 552 Dalmeny Red 2 5 553 Dalmeny Early* 2 5 554 Sharp's Express 1 5 555 Midlothian Early* 10 5 556 Southern Queen* 1 2 559 Red Kidney 15 2		King Edward VII	. 2	6				10
540 Factor 10 8 541 Duke of York 5 10 8 542 Langworthy 3 5 4 7 3 5 4 7 3 5 4 7 3 5 4 7 3 5 4 7 4 7 4 7 4 7 4 7 4 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 8 7 8 8 7 8 8 7 8 8 7 8 8 8 8 8 8 9 8 9 8 9 9 8 9 8 9 8 9 8 9 8 9 8 9 8 9 8 9 8 9 8 9 8 8 9 8		Chan Wisherson			2	2		
541 Duke of York 5 542 Langworthy 3 543 Tyne Kidney 3 544 Table Talk 1 545 Dalmeny Kidney 3 546 Crofter 3 547 Scottish Queen 1 548 Premier 1 549 Northern Star 2 550 Pink Blossom 10 551 Peace Maker 2 552 Dalmeny Early* 2 553 Dalmeny Early* 2 554 Sharp's Express 1 555 Moldothian Early* 10 556 Southern Queen* 1 557 Webber's Early* 2 5 5 12 559 Red Kidney 15 2 560 Money Maker 15 2 561 Sir Thos, Lipton 15 2 562 Radlum† 2 2 563		Frator			1.5			
Daily Witting		Duka of Vork	٠		10	8		
543 Tyne Kidney 3 544 Table Talk 1 2 545 Dalmeny Kidney 3 5 546 Crofter 3 5 547 Scottish Queen 1 2 548 Premler 1 2 549 Northern Star 2 3 550 Pink Blossom 10 5 551 Peace Maker 2 6 5 552 Dalmeny Red 2 5 5 3 1 553 Dalmeny Early* 2 5 5 1 2 5 5 1 2 5 5 1 2 5 5 1 2 5 5 1 2 5 5 1 2 5 5 1 2 2 5 5 1 2 2 5 5 1 2 2 5 5 1 2 2		Langworthy	. 9			٠.		
548 Premier 1 549 Northern Star 2 550 Pink Blossom 10 551 Peace Maker 2 6 552 Dalmeny Red 2 2 553 Dalmeny Early* 2 2 554 Sharp's Express 1 1 555 Midlothian Early* 10 1 557 Webber's Early* 2 5 559 Red Kidney 2 2 560 Money Maker 15 2 561 Sir Thos, Lipton 15 2 562 Randt 15 2 563 Acmet 2 2	543	Tyne Kidney				ర్జ		
548 Premier 1 549 Northern Star 2 550 Pink Blossom 10 551 Peace Maker 2 6 552 Dalmeny Red 2 2 553 Dalmeny Early* 2 2 554 Sharp's Express 1 1 555 Midlothian Early* 10 1 557 Webber's Early* 2 5 559 Red Kidney 2 2 560 Money Maker 15 2 561 Sir Thos, Lipton 15 2 562 Randt 15 2 563 Acmet 2 2	544	Table Talk			14	9		
548 Premier 1 549 Northern Star 2 550 Pink Blossom 10 551 Peace Maker 2 6 552 Dalmeny Red 2 2 553 Dalmeny Early* 2 2 554 Sharp's Express 1 1 555 Midlothian Early* 10 1 557 Webber's Early* 2 5 559 Red Kidney 2 2 560 Money Maker 15 2 561 Sir Thos, Lipton 15 2 562 Randt 15 2 563 Acmet 2 2		Daimeny Kidney				3		
548 Premier 1 549 Northern Star 2 550 Pink Blossom 10 551 Peace Maker 2 6 552 Dalmeny Red 2 2 553 Dalmeny Early* 2 2 554 Sharp's Express 1 1 555 Midlothian Early* 10 1 557 Webber's Early* 2 5 559 Red Kidney 2 2 560 Money Maker 15 2 561 Sir Thos, Lipton 15 2 562 Randt 15 2 563 Acmet 2 2		Crotter				2		
548 Premier 1 549 Northern Star 2 550 Pink Blossom 10 551 Peace Maker 2 6 552 Dalmeny Red 2 2 553 Dalmeny Early* 2 2 554 Sharp's Express 1 1 555 Midlothian Early* 10 1 557 Webber's Early* 2 5 559 Red Kidney 2 2 560 Money Maker 15 2 561 Sir Thos, Lipton 15 2 562 Randt 15 2 563 Acmet 2 2		Scottish Queen				2		
Northern Star 2 3 10 5550 Pink Blossom 2 6 5550 Pink Blossom 2 6 5552 Dalmeny Red 2 6 5552 Dalmeny Early* 2 554 Sharp's Express 1 5554 Sharp's Express 1 5556 Midlothian Early* 10 1 556 Southern Queen* 1 557 Webber's Early* 2 5 5 12 558 White Blossom 2 2 5559 Red Kidney 15 560 Money Maker 10 20 561 Sir Thos. Lipton 15 562 Radlum† 15 563 Acmes* 20 565 Southern 20 566 Sandame* 2					1			
551 Peace Maker 2 6 552 Dalmeny Red 2 553 Dalmeny Early* 2 554 Sharp's Express 1 555 Midlothian Early* 10 556 Southern Queen* 1 557 Webber's Early* 2 5 5 12 558 White Blossom 2 2 559 Red Kidney 15 560 Money Maker 10 20 561 Sir Thos, Lipton 15 562 Radlum† 15 563 Acmee* 20 563 Same 20 564 Sir Thos, Lipton 15 563 Acmee* 20 565 Same 20 566 Same 2			2	3				
Dalmeny Red 2 558 Dalmeny Early* 1 555 Dalmeny Early* 1 555 Mildothian Early* 10 1 556 Southern Queen* 1 557 Webber's Early* 2 5 5 12 558 White Blossom 2 2 559 Red Kidney 15 2 560 Money Maker 10 20 561 Sir Thos, Lipton 15 562 Radlumf 15 563 Acmet 2 20 563 Acmet 2 20 564 Sir Thos, Lipton 15 20 566 Sacmet 2 20 567 Sir Thos, Lipton 20 568 Acmet 2 20 20 20 20 20 20 20		Pages Maker			* &			
556 Southern Queen* 10 1 1 1 1 1 1 1 1		Dalmeny Red						
556 Southern Queen* 10 1 1 1 1 1 1 1 1		Dalmeny Early*					• •	
556 Southern Queen* 10 1 1 1 1 1 1 1 1		Sharp's Express					1	
1 1 2 5 5 12 5 5 12 5 5 5 12 5 5 5 12 5 5 5 12 5 5 5 12 5 5 5 12 5 5 5 12 5 5 5 12 5 5 5 12 5 5 5 12 5 5 5 12 5 5 5 12 5 5 5 12 5 5 5 12 5 5 5 12 5 5 5 12 5 5 5 12 5 5 5 12 5 5 5 5 12 5 5 5 5 5 5 5 5 12 5 5 5 5 5 5 5 5 5			10					
557 Webber's Early* 2 5 5 12		Southern Oneen#					i	* *
560 Money Maker 10 20 561 Sir Thos. Lipton 15 562 Radlum 15 563 Acmet 20 563 Acmet		Webber's Early*	2	5	5	12	_	
560 Money Maker 10 20 561 Sir Thos. Lipton 15 562 Radlum 15 563 Acmet 20 563 Acmet		White Blossom						
562 Radium†		Red Kidney						
563 Acmet		Sir Thos Linton				20		
568 Acmet		Radium+		15				
564 Heather Blossom† 10 10		Acmet	22"				* *	
		Heather Blossom†	. 0		ii		* *	
					10	10		

¹Nos. 500-518 of German origin; 519-523 from Holland; 524-529 from France; 530-598 from Great Britain; 599-653 from America.

TABLE I. PERCENT OF LEAF INFECTION WITH EARLY BLIGHT AND TIP BURN, SANDY LOAM SOIL, 1905—Continued

566 Discovery 15 15	Fr	ELD NUMBER AND NAME	AUG. Early blight	15 Tip burn	AUG. Early blight	21 Tip burn	AUG. Early blight	30 Tip burn
568 Supremer	565	Discovery		15		15		
567 Ideal 5 10 <					- 11			
568 Flour Ball	567	Ideal	์ อั	10				
Ninety-fold*		Flour Ball	. 10		10			
String S		Ninety-fold*				40		
572 Up-to-Date 5 8 573 Northern Star 10 574 British Queen 10 575 Fidler's Seedling 10 576 Chas, Fidler 5 17 577 Snowball		Evergood	. 2	3		17		22
Strict S		Up-to-Date		5		8		
Strict S		Northern Star						
State		British Queen						
5778 Snowball		Char Bidler						00
578 Monarch* 5 3 15 579 Dumfries* Model 5 2 2 7 581 Factor <		Snowbell	. 3			17		20
579 Dumfries' Model				. :				15
Duchess of Cornwall*			• • •			Ð		7
581 Factor .<		Duchess of Cornwall*			2			
582 Improved Kidney		Factor				_		- : :
5848 King Edward VII. 5 5 20 5848 Is John Llewellyn* 15 15 15 586 Cramond Blossom 5 10 20 587 Duke of Rothesay 5 10 20 588 Royal Kidney 5 10 20 588 Royal Kidney 5 10 10 590 Empress Queen 10 . . 591 British Queen† 592 Royal Kidney .		Improved Kidney				20		
S86	583	King Edward VII	5	5		20		
S86		Sir John Llewellyn*		15		15		
S86		Cramond Blossom		5		10		
See Royal Kidney		Langworthy	. 10					20
589 Duke of York*		Duke of Rothesay	. 5	10				
590 Empress Queen 10 591 British Queen†		Royal Kidney		٠.	40			4.4
591 British Qüeen† . 2 592 Royal Kidney 10 10 594 Ewergood . . 595 Goodfellow . <		Duke of fork*				10		
592 Royal Kidney 10 10 594 Empire Kidney 7 7 594 Empire Kidney 7 7 595 Goodfellow 2 2 596 Goodfellow 2 2 596 Up-to-Date† 2 597 Northern Star 2 597 Northern Star 2 597 Northern Star 2 599 American Wonder 5 10 10 10 12 10 600 Ross 5 10 10 10 12 10 600 Ross 2 2 8 4 10 6 601 Buffalo 2 3 4 4 5 10 601 Ross 602 Cambridge Russett 2 3 2 1 5 5 6 603 Clarke's Pride 2 3 3 7 10 10 605 Dakota Red 3 4 2 10 606 Dakota Red 3 4 2 10 607 Doe's Pride 2 3 3 7 10 10 605 Dakota Red 3 4 2 10 607 Doe's Pride 2 3 3 10 10 608 Enormous 2 2 2 2 10 601 Buffalo 608 Enormous 2 2 2 2 10 601 Buffalo 608 Enormous 2 2 2 2 2 10 601 Buffalo 602 603 604 605		Reitigh Ougen?				• •		
594 Empire Kidney					iń			
594 Evergood 10 595 Goodfellow 2 2 596 Up-to-Date† 597 Northern Star 598 Eldorado <td></td> <td>Empire Kidney</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>• •</td>		Empire Kidney						• •
1976 1976								• •
1976 1976		Goodfellow				2		
597 Northern Star 2 <td< td=""><td></td><td>Up-to-Date†</td><td></td><td></td><td></td><td></td><td></td><td></td></td<>		Up-to-Date†						
598 Eldorado . . 10 . 15 599 American Wonder 5 10 10 12 10 600 Boss 2 2 8 4 10 6 601 Buffalo 2 3 4 4 5 10 602 Cambridge Russett . . 2 1 5 5 603 Clarke's Pride 2 3 9 8 12 12 604 Crine's Lightning 2 5 3 7 10 10 605 Dakota Red . . 1 5 2 10 606 Delaware . . . 4 2 10 607 Doe's Pride . . 2 2 2 2 2 10 607 Doe's Pride . . 2 4 5 5 60		Northern Star			2			
600 Boss 2 2 8 4 10 6 601 Buffalo 2 3 4 5 10 602 Cambridge Russett . . 2 1 5 5 603 Clarke's Pride . . 2 1 5 5 5 605 Dakota Red . . 1 5 2 10 10 606 Delaware . . 4 2 10 606 Delaware . . 2 2 2 10 606 Delaware . . . 2 2 2 10 606 Delaware 2 2 <		Eldorado						
601 Buffalo 2 3 4 4 5 10 602 Cambridge Russett . . 2 1 5 5 603 Clarke's Pride . 2 3 9 8 12 12 604 Crine's Lightning 2 5 3 7 10 10 605 Dakota Red . . 1 5 2 10 607 Doe's Pride . 2 3 10 10 608 Enormous . . 2 4 5 15 609 Gem of Aroostook . . 2 4 5 15 610 Blight Preof . . . 1 2 1 2 6 611 Green Mountain . . . 1 7 3 1 1 7 3 6 1 3 2			. 5				12	
602 Cambridge Russett 2 1 5 5 603 Clarke's Pride 2 3 9 8 12 12 604 Crine's Lightning 2 5 3 7 10 10 605 Dakota Red . . 1 5 2 10 606 Delaware 3 . 4 2 10 10 607 Doe's Pride 2 3 1 10 10 10 608 Enormous 2 1 3 6 1 1 7 3 3 6 1 1 7 3 1			. 2	2				
603 Clarke's Pride 2 3 9 8 12 12 604 Crine's Lightning 2 5 3 7 10 10 606 Delaware 3 4 2 10 607 Doe's Pride 2 3 10 10 608 Enormous 2 2 4 5 15 609 Gem of Aroostook 2 2 4 5 15 610 Blight Preof 2 1 2 6 611 Green Mountain 2 2 2 2 12 612 Harris Snowball - 1 7 3 3 2 6 613 Holborn Abundance 2 2 2 7 7 14 10 nia Seedling 2 3 2 6 615 Irish Cobbler† 15 10 2 . 7 61 6 10		Bullalo				4		
605 Dakota Red . 1 5 2 10 606 Delaware 3 . 4 2 10 607 Doe's Pride . 2 3 10 10 608 Enormous . 2 2 2 . 609 Gem of Aroostook . 2 4 5 15 610 Blight Freof . 2 1 2 6 611 Green Mountain . 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 . 7 614 Ionia Seedling . 2 3 2 6 6 10 11 1 3 3 2 6 6 15 11 1 0 . . 6 6 1 0 . . 3 4		Clarks's Dride			Z	1		
605 Dakota Red . 1 5 2 10 606 Delaware 3 . 4 2 10 607 Doe's Pride . 2 3 10 10 608 Enormous . 2 2 2 . 609 Gem of Aroostook . 2 4 5 15 610 Blight Freof . 2 1 2 6 611 Green Mountain . 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 . 7 614 Ionia Seedling . 2 3 2 6 6 10 11 1 3 3 2 6 6 15 11 1 0 . . 6 6 1 0 . . 3 4		Crino's Lightning	- 2	5 5	9	7		
606 Delaware 3 4 2 10 607 Doe's Pride 2 3 10 10 608 Enormous 2 2 2 15 609 Gem of Aroostook 2 4 5 15 610 Bilght Preof 2 1 2 6 15 611 Green Mountain 2 2 2 1 7 3 3 2 6 6 11 7 3 3 2 6 6 11 7 3 3 2 6 6 15 10 2 2 2 7 7 614 Ionia Seedling 2 3 2 6 6 65 15 10 2 2 2 7 7 614 15 10 2 3 2 6 6 6 15 10 2 1 2 4 3 7		Dekote Rod	. 4		1	15	10	
607 Doe's Pride 2 3 10 10 608 Enormous 2 2 2 609 Gem of Arostook 2 4 5 15 610 Bight Preof 2 1 2 6 611 Green Mountain 2 2 2 12 12 612 Harris Snowball - 1 7 3 10 10 3 2 6 6 11 In I		Delaware		3		4	2	
613 Holborn Abundance 2 2 7 7 614 Ionia Seedling 2 3 2 6 615 Irish Cobbler† 15 10 20 . . 616 Keeper 3 7 3 10 617 Late Blightless 5 5 5 5 5 5 5 5 6 10 6 10 6 10 6 10 6 10 6 10 6 10 6 10 6 10 6 10 6 10 0 10 10 10 10 10 10 10 10 10 10 10 10 10 10 12 10 10 12 10 10 10 12 10 10 10 12 10 10 10 12 10 10 10 12 10 10 10 12 10 10 10 10 10 10 10 10 10 10 10<						â	10	
613 Holborn Abundance 2 2 7 7 614 Ionia Seedling 2 3 2 6 615 Irish Cobbler† 15 10 20 . . 616 Keeper 3 7 3 10 617 Late Blightless 5 5 5 5 5 5 5 5 6 10 6 10 6 10 6 10 6 10 6 10 6 10 6 10 6 10 6 10 6 10 0 10 10 10 10 10 10 10 10 10 10 10 10 10 10 12 10 10 12 10 10 10 12 10 10 10 12 10 10 10 12 10 10 10 12 10 10 10 12 10 10 10 10 10 10 10 10 10 10 10<		Enormous				2		
613 Holborn Abundance 2 2 7 7 614 Ionia Seedling 2 3 2 6 615 Irish Cobbler† 15 10 20 . . 616 Keeper 3 7 3 10 617 Late Blightless 5 5 5 5 5 5 5 5 6 10 6 10 6 10 6 10 6 10 6 10 6 10 6 10 6 10 6 10 6 10 0 10 10 10 10 10 10 10 10 10 10 10 10 10 10 12 10 10 12 10 10 10 12 10 10 10 12 10 10 10 12 10 10 10 12 10 10 10 12 10 10 10 10 10 10 10 10 10 10 10<	609	Gem of Aroostook			2	4	5	
613 Holborn Abundance 2 2 7 7 614 Ionia Seedling 2 3 2 6 615 Irish Cobbler† 15 10 20 . . 616 Keeper 3 7 3 10 617 Late Blightless 5 5 5 5 5 5 5 5 6 10 6 10 6 10 6 10 6 10 6 10 6 10 6 10 6 10 6 10 6 10 0 10 10 10 10 10 10 10 10 10 10 10 10 10 10 12 10 10 12 10 10 10 12 10 10 10 12 10 10 10 12 10 10 10 12 10 10 10 12 10 10 10 10 10 10 10 10 10 10 10<		Blight Proof			2	1	2	6
613 Holborn Abundance 2 2 7 7 614 Ionia Seedling 2 3 2 6 615 Irish Cobbler† 15 10 20 . . 616 Keeper 3 7 3 10 617 Late Blightless 5 5 5 5 5 5 5 5 6 10 6 10 6 10 6 10 6 10 6 10 6 10 6 10 6 10 6 10 6 10 0 10 10 10 10 10 10 10 10 10 10 10 10 10 10 12 10 10 12 10 10 10 12 10 10 10 12 10 10 10 12 10 10 10 12 10 10 10 12 10 10 10 10 10 10 10 10 10 10 10<		Green Mountain			2	2	2	12
613 Hollorn Adundance.		Harris Snowball			• •	1		3
615 Irish Cobbler; 15 10 20 616 Keeper . 3 7 3 10 617 Late Blightless 5 3 5 5 5 5 618 Norcross 5 5 10 6 10 619 Million Dollar . 3 4 3 5 620 Norcross 5 5 6 5 6 10 621 Orange Blossom . 2 2 . 622 Quick Lunch 5 15 10 12 . . 623 Rural New Yorker No. 2 15 7 25 . 25 624 Scab Proof . 3 . 3 . 625 Sir W. Raleigh 10 2 12 4 15 626 Star of the East 8 . . 627 State of Maine 8 2 628 Swiss Snowfake 8 10		Holborn Abundance			2			6
616 Keeper . 3 7 3 10 617 Late Blightless 5 5 5 5 5 5 6 10 618 Million Dollar . . 3 4 3 5 620 Norcross . 5 6 5 6 10 621 Orange Blossom . 2 2 . . . 2 2 . 622 Quick Lunch . 5 15 10 12 2 2 2 . <td></td> <td>Iniah Cabblant</td> <td></td> <td>15</td> <td></td> <td></td> <td></td> <td>0</td>		Iniah Cabblant		15				0
617 Late Blightless 5 3 5 5 5 618 Norcross 5 5 10 6 10 619 Million Dollar . 3 4 3 5 620 Norcross 5 5 6 5 6 10 621 Orange Blossom . . 2 2 . 622 Quick Lunch 5 15 10 12 . . 623 Rural New Yorker No. 2 15 7 25 . . . 624 Scab Proof . 3 3 625 Sir W. Raleigh 10 2 12 4 15 626 Star of the East 8 . . 627 State of Maine 8 2 628 Swiss Snowfake 8 10		Keeper						iò
618 Norcross 5 5 10 6 1 10 619 Million 3 4 3 5 620 Norcross 5 5 6 5 6 10 621 Orange Blossom 2 2 2 2				9				
619 Million Dollar		Norcross	. 5	5		6		
620 Norcross 5 5 6 5 6 10 621 Orange Blossom . 2 2 . 622 Quick Lunch 5 15 10 12 . 623 Rural New Yorker No. 2 15 7 25 . 25 624 Scab Froof . . 3 . . . 3 . <t< td=""><td></td><td>Million Dollar</td><td></td><td></td><td></td><td></td><td>3</td><td></td></t<>		Million Dollar					3	
621 Orange Blossom		Norcross	. 5	5		5	6	10
622 Quick Lunch 5 10 10 12 623 Rural New Yorker No. 2 15 7 25 624 Scab Proof 3 3 3 625 Sir W. Raleigh 10 2 12 4 15 626 Star of the East 8 627 State of Maine 8 2 628 Swiss Snowflake 8 10	621	Orange Blossom			2	2		
623 Rural New Yorker No. 2. 15 7 25 25 624 Scab Proof . . 3 3 625 Sir W. Raleigh 10 2 12 4 15 626 Star of the East 8 627 State of Maine 8 2 628 Swiss Snowflake 8 10		Quick Lunch	. 5		10			4.1
625 Sir W. Kaleigh 10 2 12 4 15 626 Star of the East 8 627 State of Maine 8 2 628 Swiss Snowflake 8 10	623	Rural New Verker No 2		15	7			25
625 Sir W. Kaleigh 10 2 12 4 15 626 Star of the East 8 627 State of Maine 8 2 628 Swiss Snowflake 8 10		Scab Proof		1.0	* *			3
627 State of Maine		NIT W. KAIRION			2	12	4	19
628 Swiss Snowflake 8 10		Star of the East		8		* 6		* *
629 Vermont Gold Coin		Swice Snowflake				9	4	iò
The state of the s		Vermont Gold Coin		10		12		17
		- Commente dota com						

TABLE I. PERCENT OF LEAF INFECTION WITH EARLY BLIGHT AND TIB BURN, SANDY LOAM SOIL, 1905—Concluded

Fī	ELD NUMBER AND NAME	AUG. Early blight	15 Tip burn	AUG. Early blight	21 Tip burn	Aug. Early blight	30 Tip burn
630	Westfield				2		3
631	White Beauty				4		10
632	White Scotch King		10		10	2	10
633	Unnamed Pink				2		5
634	Babbitt		5		ő	2	
635	Unknown variety		3		10	7	
636	S. commersonii				3.4		
637	Alexander's No. 1 Red		- 12		2		2
638	Washington	. 5	5		8		12
639	Orlando	. 2			2		
640	Alexander's No. 10				5	5	
641	Gem	. 5	15				17
642	Pasadena		10		10		20
643	Alexander's No. 50	. 5	5	5	5		10
644	Alexander's No. 100		5	- 5	2		8
645	Havana		10	5	10	5	15
646	Maule's Reliance				2	1	5
647	Sunset		5	7	10		12
648	Alexander's No. 4		10		12	1	15
649	Alexander's No. 7		5	.,	7	9	9
650	Alexander's Seedling		10	á	10	10	
351	Alexander's Seedling			$\tilde{2}$	2		
352	Prof. Maerker				1		2
653	Rural Blush				1		

TABLE II. WEATHER RECORD—Aug. 15-Oct. 2, 1905

	Rainfall	Temp. Max.	° F. Min.	Weather		Rainfall	Temp.	°F. Min.	Weather
Aug. 19 11 12 22 22 22 22 22 22 22 22 22 22 22	8 0.8 7 8 9 1	66 64 67 78 68 66 77 80 74 72 69	58 550 538 54 57 66 62 60 57	CPFFFC	Sept. 9 10 11 12 18 14 15 16 17 18	0.06 0.03 trace 0.21 1.47	73 74 72 70 65 57 58 66 69 70 77	54 58 61 60 51 43 45 61 62 63 65	FFCCFCFCFCFCFCFCFCFCFCFCFCFCFCFCFCFCFC
2 2 3 3 Sept.	7 8 9 0.3 0 0.5	66 69 71 68 66 67 70 72 69 66 66 69	54 49 562 554 562 558 562 558 50	PCCPCCPCCPCPCPCFCPCPCPCPCPCPCPCPCPCPCPC	21 22 23 24 25 26 27 28 29 30 Oct. 1	0.02 0.03 trace	71 80 68 60 57 51 53 68 69 72 71	577 584 547 547 441 443 449 554 548	PCCPCCPC

F, fair; PC, partly cloudy; C, cloudy.

TABLE III. PERCENTAGE OF VINES GREEN ON VARIOUS DATES IN SEPTEMBER AND EARLY OCTOBER, 1905, SANDY LOAM SOIL

					_						
FI	ELD NUMBER AND NAME DATE-	8	11	14	16	19	23	25	28	2	4
500	Geheimrat Theil		75	75	75	72	60	60	59	30	10
$\frac{501}{502}$	Sophie	85	85 10	80 5	80 5	80	80	78	78	78	70
503	Dabersche Richter's Imperator Magnum Bonum Irene Prof, Maerker	75	60	60	55 55	3 40	· ;	3	.:		
504	Magnum Bonum	40	20	10	10	-8					
505 506	Irene	90	85	85	85	85	80	80	80	70	15
507	Silesia	85 85	70 75	70 70	65 70	50 65	$\frac{10}{20}$	10 20	9 15	1	1
508	Silesia Max Eyth Mohort Gastold	75	75	75	75	75	75	70	70	50	15
509 510	Mohort	70	60	60	60	60	25	17	15	8	12
511	Pres. Krueger	85 85	65 75	65 75	65 75	52 70	15 40	12 40	$\frac{10}{20}$	5 5	2
512	Pres. Krueger Prof. Wohltmann	95	90	90	90	90	85	85	83	70	30
513	Topaz†	50	30	15	10	5	::	::	::	::	
514 515	Boncza Leo	60 85	50 70	50 70	$\frac{50}{70}$	50 70	15 10	15 10	15 10	10	3
516	Fuerst Bismark	80	75	75	75	75	40	40	38	i5	5
517	Apollo	90	85	85	85	85	85	84	82	75	75
518 519	Gelbfleischige Sp. Kartoffel. Eigenheimer* Landskroon†	6U 75	40 60	30 60	25 60	25 55	3 10	3 8	2 8		
520	Landskroont	60	55	43	40	30	13	3	2	1.5	::
521	Eureka	89	70	70	70	70	50	50	46	10	
522 528	Malador Daisy	nn	65 85	60 85	60 85	55 85	$\frac{15}{85}$	82 82	2 80	46	i
524	Belle de Fontenay* Brandale* Early Rose* Chave (Shaw) Belle de Jullet†	ripe	00	00	00	00	00	0-	30	70	-
525	Brandale*	ripe									
526 527	Chara (Shaw)	10	3						• •		
528	Belle de Juillet†	ŏ									
529	Quarantaine de la maile;	40	10	8	5	3					
$\frac{531}{532}$	Ninety-fold*	0									
533	Epicure*	5 5	3	2							
534	Windsor Castlet	20	10	2 5							
535 536	Supreme† Windsor Castle† Discovery Sir John Liewellyn* King Edward VII	70	70	70	70	70	25	25	22	ő	
537	King Edward VII	50	15	10	5	0					
538	Clamond Blossom	40	40	35	25	10	0				
539 540	Chas. Fidler		75 80	75 75	75 75	72 18	0				
541	Duke of York	ტა ე	ov	10	10	10	U				
542	Duke of York Langworthy	70	60	60	50	15	0				
543 544	Tyne Klaney	80	80 80	75 75	70 70	18 18	0				
545	Table Talk	85 85	80	75	70	18	ő				
546	Crofter Scottish Queen	70	60	58	58	10	Ü				
547 548	Scottish Queen	60	50 80	50 80	40 75	$\frac{10}{35}$	0				
549	Premier Northern Star	อย 80	80	80	80	40	0				
550	Pink Blossom	80	70	65	65	50	Ö				
551 552	Peace Maker	70	60 50	60 45	55 40	50 35	0				
553	Dalmeny Red Dalmeny Early* Sharp's Express	0	90	40	40	0.,	()				
554	Sharp's Express	Ŏ									
555 556	Midiothian Early* Southern Queen* Webber's Early* White Blossom	0									
557	Webher's Early*	20	10	5	5	3	0				
558	White Blossom	40	30	22	20	15	()				
559	Red Kidney	,	10	10	10	- 5	- 0				
560 5 61	Money Maker Sir Thos. Lipton	20	10	8	8	5 4	0				
562	Radium†	50	30	15	10	5	0				
563 564	Acmet	0	40	30	25	15	0				
565	Heather Blossom†	50	40	40	40	40	0				
566	Supreme† 1	15	3	2	0						
										_	

TABLE III. PERCENTAGE OF VINES GREEN ON VARIOUS DATES IN SEPTEMBER AND EARLY OCTOBER, 1905, SANDY LOAM SOIL—Cont'd.

Fi	ELD NUMBER AND NAME DATE-8	11	14	16	19	23	25	28	2	4
567	Tuest			70	3.0	20	20	20	2	7
568	Flour Ball									
569	Ninety-fold*									
570	Evergood									
572		30	20	20	15	0				
573	Northern Star	30	20	20	10	0				
574	British Queen	40	35	35	25	0				
575	Fidler's Seedling	2	1							
576	Chas. Fidler 20	10	6	0	- 0	0				
577	Snowball	70	O	6	3	0				
578	Monarch*	25	18	18	10	0				
579	Dumfries' Model 20	15	12	12	10	0				
580	Duchess of Cornwall* 50	40	30	25	10	ŏ				
581	Factor 80	65	60	55	15	ŏ				
582	Improved Kidney	3	9	2	2	ŏ				
588	King Edward VII 2 Sir John Llewellyn*	ž	2 2	4	- 4	U				
584	Sir John Llewellyn*	-	~		• •					
585		3	1							
586		15	10	10	iò					
587	Duke of Rothesay 0	10	.20	10	10					
588	Duke of Rothesay 20	7	5	5	5					
589	Duke of York*									
590	Empress Queen									
591	British Queen† 30	25	15	10	5					
592		25	15	10	8					
593	Empire Kidney	60	25	$\tilde{2}\tilde{2}$	10					
594	Evergood	50	25	$\tilde{2}\tilde{5}$	10					
595	Goodfellow 80 Up-to-Date† 90	65	35	35	15					
596	Up-to-Date†90	85	75	75	20					
597	Morthern Sign	80	75	75	40					
598	Endorado	5	4	4	ž					
599	American Wonder	2	$\bar{2}$	$\tilde{2}$	- 7					
600	BOSS	30	10	8	8	• •				
601	Buffalo50	30	1ŏ	10	8					
602	Cambridge Russett 40	10	5	3	2	1.1				
603	Clarke's Pride 0 Crine's Lightning 10 Dakota Red 50		_	ŭ	-					
604	Crine's Lightning 10	5								
605	Dakota Red 50	15	· 5	5	3					
606		25	5	5	3					
607	Doe's Pride	25	5	š	3					
608	Enormous 40	5	2							
609	Gem of Aroostook 5									
$610 \\ 611$	Blight Proof 80	65	60	55	12					
612	Honric Cramball 50	15	5	5	5					
613	Green Mountain 50 Harris Snowball 60	30	15	15	10					
614	Horborn Abundance	50	25	25	12					
615	Ionia Seedling	20	10	8	8					
616	Irish Cobbler									
617	Reeper	20	12	12	9					
618	Late Blightless 90	85	85	82	75					
619	Norcross	20	10	10	10					
620	Million Dollar 40	10	5	5						
621	Norcross 40	20	10	8	5					
622	Orange Blossom 90 Quick Lunch 5 Rural New Yorker No. 2 7	85	80	75	20					
623	Rural Now Ventres No. 0	อั	5	5	2					
624	Soob Proof	* 5						4.4		
625		5	5	5						
626		10	5	5	3					
627	Star of the East	25	10	8	5					
628		25	10	8	5					
629		60	45	40	20					
630	Wermont Gord Cold 30	5	5	3	3					
631		8	5 2	3	2		200			
632	White Beauty	2		2	2					
633	White Scotch King 30	10	5	3	3					
300	Unnamed Pink	70	60	50	22	3	2	i		
										-

NOTE.—The dotted lines in Tables III, IV and V indicate death of vines from the point of beginning of the line.

TABLE III. PERCENTAGE OF VINES GREEN ON VARIOUS DATES IN SEPTEMBER AND EARLY OCTOBER, 1905, SANDY LOAM SOIL - Concld.

										_
FIELD NUMBER AND NAME	DATE 8	11	14	16	19	23	25	28	2	4
634 Babbitt	25	10	8	5						
635 Unknown variety	60	20	15	10	. 8					
636 S. commersonii	70	40	30	25	20		-:			
637 Alexander's No. 1 Red			90	90 5	85 3	75	55	50		
638 Washington			10	5	5					
640 Alexander's No. 10	25		3	3.	2.					11
641 Gem		5	5	5	4					
642 Pasadena	19									
643 Alexander's No. 50		3	• :	* *	* *					
644 Alexander's No. 100			3 15	3 10	2					
645 Havana	60		15	10	7					
647 Sunset	20		5	3	2					
648 Alexander's No. 4	20	5	5	3	1					
649 Alexander's No. 7	25	5	3	3						
650 Alexander's Seedling 651 Alexander's Seedling	28	10	Ð	3						
651 Alexander's Seedling 652 Prof. Maerker		3 70	70	70	* 7		1	13		
653 Rural Blush		85	85	85	80	10	10	5		

TABLE IV. PERCENTAGE OF VINES GREEN ON VARIOUS DATES IN SEPTEMBER AND EARLY OCTOBER, 1905, CLAY LOAM SOIL

FIE	LD NUMBER AND NAME	DATE-	8	11	14	16	19	23	25	28	2	4
500	Geheimrat Theil			80	80	73	73	15	12	8	0	
501	Sophie			85	85	80	80	70	65	55	25	0
502	Dabersche			50	50	45	15	0	00	00	20	0
503	Richter's Imperator			80	80	75	60	15	10	10	1	0
504	Magnum Bonum			60	60	55	10	-0	10	10	_	0
505	Irene		0	00	00	00		~				
506	Prof. Maerker			85	66	65	50	10	9	5	0	
507	Silesia			85	85	85	82	70	68	65	28	- 5
508	Max Evth			80	80	80	75	40	38	35	10	- 1
509	Mohort			85	85	80	80	40	38	25	12	î
510	Gastold			80	79	75	75	20	15	12	-3	î
511	Pres. Krueger			85	83	80	80	65	62	60	15	1
512				85	85	80	80	80	80	80	40	ï
513	Topaz†			70	70	68	60	3	2	0		
514	Boncza			70		70	68	60	5	5	5	-0
515	Leo			80		80	80	0				
516	Fuerst Bismark			85	85	82	80	60	60	60	15	1
517	Apollo			85	85	82	82	80	80	78	65	8
518	Gelbfleischige Sp. Kartoffe	1		75	75	70	65	5	5	3	0	
519	Eigenheimer*			50	50	50	50	20	16	12	3	0
520 -	Landskroon†			50	50	50	48	3	2	1	0	
521	Eureka			85	85	78	75	15	15	12	0	
522	Malador			70	70	70	70	10	10	10	1	0
523	Daisy			90	84	84	80	70	68	60	10	- 2
524	Belle de Fontenay*		0									
525	Brandale*		0									
526	Early Rose*			15	15	10	7	0				
527	Chave (Shaw)			5	5	3	2	0				
528			0									
529	Quarantaine de la Halle†			30	20	15	10	0				
531	Ninety-fold*			5	3	0						
532	Epicure*			5	3	2	1	0				
533	Supremet			5	3	2	0					
534	Windsor Castlet			10	4	4	2	0				

0-Dead,

TABLE IV. PERCENTAGE OF VINES GREEN ON VARIOUS DATES IN SEPTEMBER AND EARLY OCTOBER, 1905, CLAY LOAM SOIL— $Con\mathcal{V}d$.

F	ELD NUMBER AND NAME	DATE-8	11	14	16	19	23	25	28	2	4
535	Discovery		50	50	40	25					
536	Sir John Llewellyn*		5	5		35	0				
537	King Edward VII		50	40	5 20	10	0				
538	King Edward VII						0				
539	Cramond Blossom		70	40	40	10	0				
540	Chas. Fidler		OF	70	OF	40					
541			85	70	65	12	, 0				
542	Duke of York		00	PT 07	70	40					
543	Langworthy		80	75	72	12	0				
544	Tyne Kidney		85	75	73	15	0				
549	Table Talk		85	78	75	15	0				
550	Northern Star		80	75	73	16	0				
551	Pink Blossom		85	78	75	12	0				
591	Peace Maker		80	80	75	12	0				
592	British Queen†		60	30	28	10	0				
593	Royal Kidney		50	15	12	9	0				
594	Empire Kidney		80	75	75	12	0				
595	Evergood		80	75	75	15	0				
596	Goodfellow		85	80	78	22	0				
598	Up-to-Date†		80	80	75	12	0				
599	Eldorado		75	75	70	25	0				
600	American Wonder		10	0	~ ~	0	_				
601	Boss		20	15	15 28	- 8	0				
602	Buffalo		40	28		10	0				
603	Cambridge Russett		25	25	20	10	0				
604	Clarke's Pride Crine's Lightning	0	90	0.0	0~	40	_				
605	Dokota Pod		30	30	25	10	0				
606	Dakota Red		45	35	35	10	0				
607	Delaware		50	32	32	10	0				
608	Doe's Pride		50	30	30	10	0				
609	Enormous		40	.20	20	15	0				
610	Gem of Aroostook		25	10	10	- 8	0				
611	Blight Proof Green Mountain		80	75	75	40	2	2	2		
612	Harris Spowbell		60	30	25	$\frac{18}{12}$	0				
613	Harris Snowball Holborn Abundance		60	50	50		10	4.0		_	
614	Ionia Seedling		85	75	75	65	10	10	8	0	
615	Trich Cobbloat		40	10	10	8	0				
616	Irish Cobbler† Keeper		75	ME	PT III	1=					
617	Lata Blightlags		75	75	75	45	0				
618	Late Blightless		80	80	80 35	55	2	2	2	0	
619	Norcross Million Dollar		$\frac{60}{20}$	40	99	12	0				
620	Norgross		50	10	10						
621	Orange Blossom			10	10	-8	0				
623	Rural New Yorker No.	9	85 10	70	65	10	0				
624	Scab Proof	4	15	5	9	9	0				
625	Sir W. Raleigh		30		$\frac{3}{25}$	10	ő				
627	State of Maine		15	30 8	29	5	ő				
628	Swiss Snowflake		70	70	70	25	ŏ				
629	Vermont Gold Coin		50			10					
630	Westfield		30	50 30	30 25	10	0				
631	White Reguty		30	15	15	10	ő				
632	White Beauty White Scotch King		25	10	10	8	0				
633	Unnamed Pink		70	55	55	13	ő				
635	Unknown variety		60	50	40	10	0				
652	Prof. Maerker	********	80	80	75	25	0				
653	Rural Blush		65	50	40	10	0				
654	June		60	45	45	12	ŏ				
1	Dakota Red				40	45	ő				
ĝ	Rust Proof			* *	75	75	65	60	50	5	0
	***************************************			47.4	10	10	00	00	30	Ð	0

TABLE V. PERCENTAGE OF FOLIAGE AFFECTED BY LATE BLIGHT, AUGUST 15—SEPTEMBER 25, 1905, SANDY LOAM SOIL

FII	ELD NUMBER AND NAME DATE	15	21	29	30	3	5	6	11	16	19	25
500	Geheimrat Theil								10	10	15	15
501	Sophie			40	iò	**	**	* #	8 12	8	10	20
502 503	Dabersche Richter's Imperator				10	10	10	10	10	40 12	80 40	::
504	Magnum Bonum				,		i	i	10	30	70	
505	Prof. Maerker						13		- 2	2	3	5
50 6 507				• •	• •	1.5	1	1	15 5	20 10	45 15	65 65
508	3.5- 33.43								2	5	10	20
$\frac{509}{510}$	Mohort								10	15	25	65
511	Gastold								12 10	12 10	25 15	65 50
512	Pres. Kruger								3	5	5	10
513 514	Topaz†Boncza								7	10	15	13
515				• •			2	2	15	17 5	18 25	45 85
516	Fuerst Bismark								ĩ	5	15	50
517 518	Apollo								2 5	2	3	5
519	Eigenheimer*								1	10	15 6	38
520	Gelbfleischige Sp. Kartoffel. Eigenheimer* Landskroon;							2	10	25	70	
521	Eureka								٠,	3	18	25
522 523	Malador Daisy								1	5	30 8	60 10
524	Belle de Fontenay*											3.0
525	Brandale*				1			iż				
526 527	Early Rose* Chave (Shaw) Belle de Juillet†				1		• •	17				
528	Belle de Juillet†						- : :					
529	Quarantaine de la Hallej		ŏ	5	10	10	10	30	60	70	75	
$\frac{531}{532}$	Ninety-fold* Epicure*							• •				
533	Supremet				3	3	3	3	18			
534	Windsor Castlet				6	6	6	10	55	78	5	2.1
535 536	Discovery Sir John Llewellyn* King Edward VII									2	Э	60
537	King Edward VII				5	5	5	7	20	40	55	
538	Cramond Biossom				1	1	1	3	20	35	75	
539 540	Chas. Fidler			1, 1	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	1 8	$\frac{12}{20}$	15 30	35 85	
541	Duke of York	- : :										
542	Langworthy				2	2 2 1	2 2 1	2 2 1	21	38	80	
543 544	Tyne Kidney				~	7	ř	ä	20 20	25 23	82 80	
545	Dalmeny Kidney	- : :			1	1	i	î	15	22	50	
546	Crofter				5	5	5	7	20	30	7.5	
547 548	Scottish Queen				2	2	2	6	20 15	30 20	$\frac{75}{30}$	
549	Northern Star	- 11		- : :	i	i	i	i	5	10	40	
550	Northern Star Pink Blossom				2	2	5	5	15	20	60	
551 552					1	1	3	3	15 10	20 12	$\frac{40}{25}$	
553	Dalmeny Red		- ::						10	12	20	
554	Dalmeny Early* Sharp's Express											
555	Midlothian Early* Southern Queen* Webber's Early* White Blossom					'i	i	i	iò			
556 557	Webber's Early*						1		10	20	30	
558	White Blossom			1.	'î	i	8	8	18	18	40	
559	Red Kidney						• ;	1	iò	20	30	
560 561	Money Maker			- : :	i	i	6	6	20	50	85	
562	Radium†								10			
563	Acmet				i	i	10	10	20 20	30	80	
564 565	Heather Blossom; Discovery				1	- 1			5	10	00	
566	Supreme†						1					
		-										

TABLE V. PERCENTAGE OF FOLIAGE AFFECTED BY LATE BLIGHT, AUGUST 15—SEPTEMBER 25, 1905, SANDY LOAM SOIL—Continued

FI	ELD NUMBER AND NAME	DATE-1	5 !	21	29	30	3	5	6	11	16	19	25
567	7.7 - 7				20	00		U	U	11	10	19	20
568	Flour Ball Ninety-fold*								4.41				
569	Ninotz folds					1.5		1	1.	5			
570	Dronge ad					1							
572	Evergood							1	1	iò	15	50	
573	Up-to-Date					1	1	35	35	36	45	85	
574	Northern Star British Queen					1	1	12	12	12	25	50	
575	British Queen					1	1	20	20	50			
576	Figures Seedling												
577	Fidler's Seedling Chas. Fidler									10	30	40	
578	Many Dall					i	i	40					
579								10	10	20	70	80	
580	Dumfries' Model							35	35	37	80	85	
581						1	1	20	20	25	65	95	
	Factor					1	17	17	17	20	60	92	
582	improved Kidney							12	12	20	60	70	
588	Factor Improved Kidney King Edward VII Sir John Llewellyn* Cramond Blossom Langworthy						- 1	10					
584	Sir John Llewellyn*												
585	Cramond Blossom							10	10	20	40	45	
586	Langworthy							1	ĭ	ĩŏ	25	80	
587	Duke of Rothesay											~ ~	
588	Royal Kidney							1.2	12	25	50		
589	Duke of Rothesay Royal Kidney Duke of York* Empress Queen								12	20	00		
590	Empress Queen					• •		• •	• •				
591	Driush Queent					i	i	20	20	32	'80	95	
592						î	î	15	15	40	85	95	
593	Empire Kidney Evergood				• •	î	i	10	10	$\frac{1}{20}$	80	90	
594	Evergood					Ť	Ť	1	1	17	30	75	
595	Goodfellow Up-to-Date†					î	7	4	4	15	40	90	
596	Up-to-Date†					Ť	1 1 1	3	3	17	40	90	
597	TRUE HISHITOFF					î	1	3	2	18	25	75	
598	Eldorado American Wonder							- Ga	4	10	5	10	
599	American Wonder					14		* *		O.	Ð		
600	DUSS				3	3	3	15	15	20	30		
601	Dulialo				9	U	o	15	15				
602				3	12	iż	12	20	20	18 30	40		
603	Clarke's Pride Crine's Lightning						1,4	20	20	3V	35		
604	Crine's Lightning			•	• •			12	12	22	30		
605	Dakota Red				i	i	i	10					
606			i '	3		Ė	Ť.		10	20	50		
607	Doe's Pride		4	9	5	5	5 1	10	10	15	25		
608				ô	8	18		-8	-8	12	20		
609	Gem of Aroostook Blight Proof Green Mountain Harris Snowball			4	1		8	15	15	40	60		
610	Blight Proof				Ŧ	1	1	17	17	25			
611	Green Mountain		÷ ·	5	5	5	* ÷	7 7 5	7	17	25	65	
612	Harris Snowball			Ð	Ð	Ð	9	1	7	20	35		
613								9	5	-10	35		
614					* * -			2	2	70	15		
615	Irish Cobbler;				• •			4	4	12	20		
616	Keeper							2	· 2	::	**		
617	Late Blightless				* *		* =	2	2	15	20		
618	Norcross				10	10	2	1	1	5	_8		
619	Million Dollar				10	10	22	22	22	30	70	::	
620	Norcross								2	30	90	95	
621	France Rioggom				* * .	- :		i	* 2	12	40	60	
622	Onick Lunch			-	.:	1	1	1	1	10	20	75	
623	Quick Lunch Rural New Yorker No. Scab Proof Sir W Baleigh				1	1	1	1	1.	1	1	1	
624	Scab Proof	2							3 1 3 8	.7	12	* * *	
625	Sir W Releich								1	15	25	35	
626						3	3 1	3	3	20	60	85	
627	Star of the East					1	1	1	8	30	70	90	
628	State of Maine					1	1	1	3	20	70	90	
629	Swiss Snowflake					- 1.				10	15	80	
630						1	1	i	.:i	20	40	75	
631						5	5	5	5	25	75	90	
632	White Beauty					1	1	1	10	35	50	75	
633	White Scotch King.								8	20	75	90	
000	Unnamed Pink								10	18	40	80	
											_		

TABLE V. PERCENTAGE OF FOLIAGE AFFECTED BY TE BLIGHT, AUGUST 15—SEPTEMBER 25, 1905, SANDY LOAM SOIL—Concluded

FI	ELD NUMBER AND NAME DATE	- 15	21	29	30	3	5	6	11	16	19	2
34	Babbitt				1	1	1	2	25	85	95	
35	Unknown variety				1	1	1	6	30	90	93	
36	S. commersonii					2	2	6	20	50	85	
37	Alexander's No. 1 Red							Ť	5	8	18	2
38	Washington				- 1	1	1	7	40	55	60	
39	Orlando	- 11			Ť	ī	Ť	3	32	85	90	
40	Alexander's No. 10	2	2	2	2	2	2	10	60	92	95	
41	(7)				- 7	ĩ	ĩ	1	18	32	35	
42	Pasadena				-	3.	17	17	80	02	00	
43	Alexander's No. 50					50	50	50	55	95		
44	Alexander's No. 100		* 2	$\mathring{2}$	* 2	90	20	20	60	95		
45					4	4	20					
46						* *		* 6	30	90		
	Maule's Reliance							3	40	88		
47	Sunset	1.5	1.2	1.5	1.2	1.5	13	2	60	97		
48	Alexander's No. 4		1	1	1	1	Ţ	Ť	50	80		
49	Alexander's No. 7				4.4		30	30	80	96		
50	Alexander's Seedling					1.1	15	15	25	75		
51	Alexander's Seedling					17	17	17	65	95		
52	Prof. Maerker								7	17	25	
53	Rural Blush								5	15	25	

TABLE VI. PERCENTAGE OF TUBERS ROTTEN, SANDY LOAM SOIL, 1905

**					_				
FIEI	LD NUMBER AND NAME	No.1	No.2	Total	FIE	LAD NUMBER AND NAME Langworthy, Type Kidney, Type Kidney, Table Talk, Dalmeny Kidney, Crofter, Scottish Queen, Premier, Northern Star, Plak Blossom, Peace Maker, Dalmeny Red, Dalmeny Early,* Sharp's Express, Midlothian Early,* Southern Queen,* Webber's Early,* Webber's Early,* White Blossom, Red Kidney, Money Maker, Sir Thos. Lipton, Raddum,† Acme, † Heather Blossom,† Discovery, Supreme,† Ideal, Ninety-fold,* Evergood, Up-to-Date, Northern Star, British Queen. Fidler's Seedling, Chas. Fidler, Snowball, Monarch.* Dumfries' Model, Duchess of Cornwall, Factor,	No.1	No.2	Total
500	Geheimrat Theil,	0	0	3.2	542	Langworthy.	0	4	.4
501	Sophie,	0	ŏ	1.8	543	Tyne Kidney	22	27	4.6
	Dabersche.	ŏ	.5	.8	544	Toble Tolle	4.2	1.5	1.2
502	Richter's Imperator,	3.		4.1	545	Dolmony Kidney	2 4	2.0	1.5
500	Mamuer Banum	0.0	T.0	#. T	540	Crafter Kidney,	0.4	2.1	6.1
504	Magnum Bonum,	ŏ	ŏ	0	040	Crofter,	V	100	17.3
505	Irene, Prof. Maerker, Silesia, Max Eyth, Mohort, Gastold, Pres. Krueger, Prof. Wohltmann	0.5	V	.4	1941	Scottish Queen,	V	10.2	5.
500	Prof. Maerker,	2.3	0	3.3	048	Premier,	V	4.9	Ð.
507	Silesia,	v	.4	.6	549	Northern Star,	0 0	8.	1.4
508	Max Eyth,	U	0	1.5	550	Pink Blossom,	2.6	3.1	5.4
509	Monort,	U	0	0	591	Peace Maker,	Ų	2.8	1.3
510	Gastold,	0	0	.4	552	Dalmeny Red,	0	Ð.	4.5
511	Pres. Krueger,	3.3	2.9	4.2	553	Dalmeny Early,*	0	0	0
512	Pref. Wohltmann,	0	0	.6	554	Sharp's Express,	~ 0	0	0
513	Topaz,†	0	- 0	.2	555	Midlothian Early,*	0	0	2.8
514	Boncza,	0	2.5	1.8	556	Southern Queen,*	0	0	7.1
515	Leo.	0	0	0	557	Webber's Early,*	0	2.4	5.
516	Fuerst Bismark,	0	0	.4	558	White Blossom,	11.1	15.4	14.9
517	Apollo,	0	0	0	559	Red Kidney,	0	0	1.5
518	Gelbf. Sp. Kartoffel,	0	1.4	.9	560	Money Maker,	0	0	.8
519	Eigenheimer.*	0	0	.6	561	Sir Thos, Lipton,	0	6.3	5.1
520	Pres. Krueger, Prof. Wohltmann, Topaz,† Boncza, Leo, Fuerst Bismark, Apollo, Gelbf. Sp. Kartoffel, Eigenhelmer.* Landskroon,† Bureka, Malador, Dalay,	0	.6	.2	562	Radium,†	0	0	4.3
521	Eureka.	0	0	.3	563	Acme, †	. 0	θ	1.8
522	Malador.	1.7	.8	.7	564	Heather Blossom.t	8.7	8.5	11.6
523	Daiay.	- ò	0	0	565	Discovery.	0	0	5.2
524	Belle de Fontenav.*	. 0	ŏ	2.6	566	Supreme,†	Õ	ŏ	2.1
525	Brandale *	ŏ	14.3	17.9	567	Ideal.	Ŏ	2.5	4.4
526	Early Rose.*	27.2	17.1	18.5	568	Flour Ball.	11.	0	2,
527	Chave (Shaw)	22.2	1111	11.9	569	Ninety-fold.*	33 3	ň	8.6
598	Relle de Inillet t		5.7	3.9	570	Evergood	0.00	ŏ	3
520	Ouer de la Halle ;	ň	124	13.2	572	IIn-to-Date	ŏ	10	.3 7.3
521	Ninety fold *	ŏ	5.1	3.5	573	Northern Star	ŏ	9.1	8.6
230	Enjoure *	ň	٥.	0.0	574	British Ougen	ŏ	0.1	2.8
599	Supreme +	ň	ň	ň	575	Fidler's Seedling	ő	ŏ	2.0
524	Windoor Castlet	ŏ	4 3	26	576	Chas Fidler	ŏ	7 1	16.8
504	Windsor Castle,	Ň	4.0	2.0	577	Snowball	N N	1.7	14.1
500	Discovery,	X	. 8	7 9	570	Monorch *	ŏ	200	6.
930	Sir John Liewenyn,	4 6	4 4	7.0	570	Dumfnica' Model	, A	0.0	7.3
537	Malador, Daisy, Belle de Fontenay,* Berndale,* Early Rose,* Chave (Shaw), Belle de Juillet,† Quar. de la Halle,† Ninety-fold,* Epicure,* Supreme,† Windsor Castle†, Discovery, Sir John Llewellyn,* King Edward VII, Cramond Blossom, Chas Fedler.	4.9	4.4	1.0	979	Dumiries Model,	, o	7 7	5,
538	Cramond Blossom,	0	4.	4.9	580	Floriess of Cornwall,	77 3	3.5	ə. 7.
539	Chas. redier,	05.0	140	171	581	Factor,	7.1	3.0	4.
540	Factor,	23.2	14.6	17.1	582	Improved Kidney.	0	0	0
541	King Edward VII, Cramond Blossom, Chas. Fedler, Factor, Duke of York,	9.7	2.2	4.6	, 583	King Edward VII,	0	U	5.8

Note.—No. 1, 85 grams (3 oz.) or more in weight; No. 2, 45-85 grams (1.5-3 oz.) in weight; total, Nos. 1 and 2 with culls weighing less than 45 grams.

TABLE VI-Continued

Tield Number and Name								
584 Sir John Llewellyn,* 0 0 619 Million Dollar, 14,2 15,3 16,2 585 Cramond Blossom, 0 35,2 20,8 620 Norcross, 14,8 19,2 17,1 586 Langworthy, 0 0 2,2 621 Orange Blossom, 10,6 14,6 14,5 587 Duke of York,* 0 0 3,4 622 Quick Lunch, 10,5 1,5 2,2 589 Duke of York,* 0 0 3,4 623 R. N. Y. No. 2, 10,5 1,5 2,2 22,1 3,2 21,3 3,2	FIELD NUMBER AND NAME	No.1	No.2	Total	FIELD NUMBER AND NAME	No.1	No.2	Total
585 Cramond Blossom, 0 35.2 20.8 820 Norcross, 14.8 19.2 17.1 586 Langworthy, 0 0 2.2 621 Orange Blossom, 10.6 14.6 14.5 58.7 588 Royal Kidney, 0 0 3.4 623 R. N. Y. No. 2, 10.5 1. 5.2 8.2 589 Duke of York* 0 0 3.7 624 Scab Proof. 7.5 12.8 11.9 590 Empress Queen, 0 0 4.7 626 Star of the Bast, 21.5 37.7 22.1 591 British Queen,† 0 0 4.7 626 Star of the Bast, 21.5 37.7 26.9 592 Royal Kidney, 0 0 1.4 628 Swiss Snowdake, 5.7 4.5 4.5 594 Evergood, 0 0 0 629 Vermont Gold Coin, 56.1 2.2 2.1 2.1 2.1 2.1 2.1 2.1 2.1 2.1 2.1 2.1 2.1 2.1 2.1 2.2 2.2	584 Sir John Llewellvn.*	0	0	0	619 Million Dollar.	142	15.3	16.2
586 Langworthy, 0 0 2.2 621 Orange Blossom, 10.6 14.6 14.5 587 Duke of Rothesay, 0 0 6.1 622 Quick Lunch, 10.5 1.8 8.2 589 Duke of York,* 0 0 3.4 623 R. N. Y. No. 2, 10.5 1. 5.2 589 Duke of York,* 0 0 3.7 624 Scab Proof, 7.5 1.2 8.1.9 590 Empress Queen, 0 0 4.7 626 Star of the East, 21.5 3.7 26.9 592 Royal Kidney, 0 0.47 626 Star of the East, 21.5 50.4 49.5 593 Empire Kidney, 0 0.14 628 Swiss Snowdake, 5.7 45.4 64.5 594 Evergood, 0 0 0.7 630 Westfield, 14.2 12.1 50.4 595 Goodfellow, 0 0 0.7 631 White Beauty, 11.4 13.5 11.4 13.5 11.1 13.5 11.2 11.2 21.6 60.2 <t< td=""><td>585 Cramond Blossom.</td><td>Ô</td><td>35.2</td><td>20.8</td><td>620 Norcross.</td><td>14.8</td><td>19.2</td><td>17.1</td></t<>	585 Cramond Blossom.	Ô	35.2	20.8	620 Norcross.	14.8	19.2	17.1
588 Royal Kidney, 0 0 0 3.4 623 R. N. Y. No. 2 10.5 5.8 8.2 589 Duke of York.* 0 0 3.4 624 8cab Proof, 7.5 12.8 11.9 590 Empress Queen, 0 0 9 625 Sir W. Raleigh, 19. 23.2 21.3 591 British Queen, 0 0 4.7 626 8tar of the East, 21.5 37.7 26.9 592 Royal Kidney, 0 3.4 1.9 627 8tate of Maine, 51.3 50. 49.5 594 Evergood, 0 0 1.4 628 8wiss Snowflake, 51.3 50. 49.5 594 Evergood, 0 0 629 Vermont Gold Coin, 26.1 2 21.5 597 Northern Stair, 0 0 1.2 632 White Beatty, 11.4 13.5 11.1 597 Northern Stair, 0 0 1.2 632 White Sotch King, 60. 52.7 50.5 598 American Wonder, 601 Buffalo, 612 634 Babbitt, 30.7 23.3 15.5 600 Boss, 30.7 22.5 22.8 635 Unknown variety, 28.6 28.5 27.8 603 Clarke's Pride, 62.7 62.5 638 Washington, 43.7 46.6 38.3 604 Crine's Lightning, 48.1 34. 34. 34. 34. 34. 34. 34. 34. 34. 34.	586 Langworthy,	0	0	2.2	621 Orange Blossom.	10.6	14.6	14.5
588 Royal Kidney, 0 0 3.4 623 R. N. Y. No. 2, 10.5 1. 5.2 589 Duke of York,* 0 0 3.7 624 Scab Proof, 7.5 1.2 1.1 590 591 British Queen,† 0 0 4.7 626 Star of the East, 21.5 3.7 26.9 592 Royal Kidney, 0 0 4.7 626 Star of the East, 21.5 3.7 26.9 592 Royal Kidney, 0 0 1.4 628 Swiss Snowfake, 5.7 4.5 4.6 594 692 Evergood, 0 0 629 Vermont Gold Coin, 26.1 2 21.5 595 Goodfellow, 0 0 0 629 Vermont Gold Coin, 26.1 2 21.5 595 Goodfellow, 0 0 0 629 Vermont Gold Coin, 26.1 2 21.5 595 Goodfellow, 0 0 1.2 632 White Seathy, 11.4 13.5 11.1 13.5 11.2 11.2 11.5 7.6 631	587 Duke of Rothesay.	Õ	0	6.1	622 Quick Lunch.	10.5	5.3	8 2
589 Duke of York.* 0	588 Royal Kidney.	0	Ö.	3.4	623 R. N. Y. No. 2.	10.5	1.	5.2
590 Empress Queen, 0 0 0 0 625 Sir W. Raleigh, 19. 23.2 21.3 591 British Queen,† 0 0 4.7 626 Star of the East, 21.5 3.7 26.9 592 Royal Kidney, 0 0 1.4 628 Swiss Snowflake, 5.7 4.5 4.6 594 Evergood, 0 0 0 629 Vermont Gold Coin, 26.1 2 21.5 595 Goodfellow, 0 0 7 630 Westfield, 14.2 12.2 15.5 597 Northern Star, 0 0 1.2 632 White Scotch King, 60. 52.7 50.5 598 American 60. 2.7 633 Unnamed Pink, 50. 11.4 13.5 11.1 599 American 0 0 0 9 633 Unnamed Pink, 50. 22.7 50.5 601 Buffalo, 18. 9.8 15.8 868 Dinknown variety, 28.6 28.5 27.8 602 Cambridge Russett, 0 2.7 2.2<	589 Duke of York.*	0	Ö.	3.7	624 Scab Proof.	7.5	12.8	11.9
591 British Queen, 7 0 0 4.7 626 Star of the East, 21.5 37.7 26.9 592 Royal Kidney, 592 Empire Kidney, 594 Elvergood, 594 Elvergood, 594 Elvergood, 594 Elvergood, 594 Elvergood, 595 Goodfellow, 596 Up-to-Date, 595 Goodfellow, 596 Up-to-Date, 596 Up-to-Date, 596 Up-to-Date, 596 Up-to-Date, 596 Up-to-Date, 596 Up-to-Date, 597 Korthern Star, 598 Eldorado, 599 American Wonder, 590 Bidorado, 590 Bidorado, 590 American Wonder, 590 America	590 Empress Queen,	Ó	0	.9	625 Sir W. Raleigh.	19.	23.2	21.3
592 Royal Kídney, 0 3.4 1.9 627 State of Maine, 51.3 50.4 49.5 593 Empire Kidney, 0 0 1.4 628 Suss Snowflake, 5.7 4.5 4.6 594 Evergood, 0 0 0 629 Vermont Gold Coin, 26.1 2 21.5 595 Goodfellow, 0 0 7 630 Westfield, 14.2 17.2 18.8 597 Northern Star, 0 0 1.2 632 White Beauty, 1.4 13.5 11.1 598 Eldorado, 0 0 9 633 Unnamed Pink, 50.1 10.2 11.2 601 Buffalo, 8.8 18.8	591 British Queen,†	0	0	4.7	626 Star of the East.	21.5	37.7	26.9
594 Ewergood, Potential State of September 1 0 0 1.4 628 Swiss Snowflake, State of State of State of September 2 5.7 4.5 4.6 594 Evergood, Potential State of September 2 26.1 2.21.5 595 Goodfellow, Good September 2 1.1 21.1 21.5 1.2 21.5 1.6 2.9 4.8 1.4 21.1 21.5 1.1 21.1 21.5 1.1 21.1 21.5 1.1 21.1 21.5 1.1 21.1 21.5 1.1 21.1 21.5 1.1 21.1 21.5 21.3 1.1 21.1 21.5 1.1 21.1 21.5 21.1 2.2 22.5 22.8 32 1.1 21.1 2.2 22.5 22.8 635 Unknown variety, 28.6 28.5 27.8 21.5 22.8 635 Unknown variety, 28.6 28.5 27.8 22.6 28.5 27.8 22.6 28.5 27.8 22.6 28.5 27.8 22.6 28.5 27.8 22.6 28.5<	592 Royal Kidney.	0	3.4	1.9	627 State of Maine.	51.3	50.	49.5
594 Evergood, 0 0 0 629 Vermont Gold Coin, 26.1 2 21.5 595 Goodfellow, 0 0 7 630 Westfield, 14.2 17.2 16.8 596 Up-to-Date,† 3.9 10.1 5.7 631 White Beauty, 11.4 13.5 11.1 13.5 11.1 13.5 19.1 11.4 13.5 11.1 13.5 19.1 11.4 13.5 11.1 13.5 19.1 21.6 24.2 22.7 50.5 59.8 22.7 50.5 59.8 20.0 0 9 63.3 Unnamed Pink, 50.1 10.2 11.2 23.3 15.5 60.0 8.7 22.5 22.8 635 Unknown variety, 28.6 28.5 27.8 60.0 60.0 62.2 22.6 63.2 Alexander's No. 1 1.0 43.7 43.7 43.7 43.7 43.7 44.6 38.3 46.6 50.0 66.6 50.0	593 Empire Kidney,	0	0	1.4	628 Swiss Snowflake.	5.7	4.5	4.6
596 Up-to-Date,† 3.9 10.1 5.7 630 Westfield, 14.2 17.2 16.8 596 Up-to-Date,† 3.9 10.1 5.7 631 White Scotch King, 60. 52.7 50.5 598 Eldorado, 0 0 9.63 Unnamed Pink, 5.1 10.2 11.2 598 Endorado, 30.7 22.1 634 Babbitt, 30.7 22.3 15.5 600 Boss, 30.7 22.5 22.8 635 Unknown variety, 28.6 28.5 27.8 601 Enders Pride, 12.5 3.8 48.8 635 Unknown variety, 28.6 28.5 27.8 602 Cambridge Russett, 12.5 3.8 48.8 635 Unknown variety, 28.6 28.5 27.8 604 Crine's Lightning, 48.1 34.8 638 Washington, 48.7 46.6 38.3 605 Dakota Red, 21.3 17.6 17.9 641 Gem, 50. 47.5 41.6 607 Doe's Pride, 6.7 3.4 4.1 642 Pasadena, 1	594 Evergood,	0	0	0	629 Vermont Gold Coin.	26.1	2.	21.5
596 Up-to-Date,† 3.9 10.1 5.7 631 White Beauty, 11.4 13.5 11.1 5.97 Northern Star, 0 0 1.2 632 White Seotch King, 60. 5.2 7.5 5.5 598 Bldorado, 0 0 9 633 Unnamed Pink, 5.1 10.2 11.2 5.7 50.5 598 American Wonder, 0 1.6 2.1 6.34 Babbitt, 30.7 22.5 22.8 835 Unknown variety, 28.6 28.5 27.8 2.2 62.2 636 S. commersonii, 0 0 6.2 5.2 62.8 68.5 Unknown variety, 28.6 28.5 27.8 2.2 636 S. commersonii, 0 0 6.2 27.2 636 S. commersonii, 0 0 6.2 7.2 63.6 8.8 7.0 1.0 48.7 48.7 48.1 34.8 639 Orlando 6.6 6.0 6.6 50.0 6.6 50.0 6.6 50.0 6.6 50.0 44.8 48.8 <td>595 Goodfellow,</td> <td>0</td> <td>0</td> <td>.7</td> <td>630 Westfield.</td> <td>14.2</td> <td>17.2</td> <td>16.8</td>	595 Goodfellow,	0	0	.7	630 Westfield.	14.2	17.2	16.8
597 Northern Star, 598 Eldorado, 598 Eldorado, 598 Eldorado, 600 Boss, 600 Boss, 600 Boss, 600 Boss, 602 Cambridge Russett, 602 Cambridge Russett, 602 Cambridge Russett, 602 Cambridge Russett, 604 Crine's Lightning, 604 Crine's Lightning, 605 Dakota Red, 605 Dakota Red, 605 Dolaware, 617 Dolaware, 618 Dolaware, 618 Dolaware, 618 Fig. 618 Dolaware, 618 Dolaware, 618 Dolaware, 619 Green of Aroostook, 611 Green Mountain, 614 Lightning, 610 Bilght Proof, 611 Green Mountain, 614 Lightning, 610 Dolaware, 611 Green Mountain, 615 Lightning, 610 Dolaware, 611 Green Mountain, 614 Lightning, 610 Dolaware, 615 Lightning, 610 Dolaware, 611 Green Mountain, 614 Lightning, 615 Lightning, 616 Dolaware, 617 Dolaware, 618 Norcross, 619 Green Mountain, 619 Lightning, 610 Dolaware, 610 Dolaware, 610 Dolaware, 611 Green Mountain, 614 Lightning, 615 Lightning, 616 Dolaware, 617 Lightning, 617 Lightning, 618 Norcross, 618 Norcross, 618 Samara Blush, 618 Lightning, 616 Dolaware, 618 Norcross, 618 Norcross, 618 Norcross, 618 Norcross, 619 Dolaware, 618 Norcross, 619 Dolaware, 618 Norcross, 619 Dolaware, 619 Dolawar	596 Up-to-Date,†	3.9	10.1	5.7	631 White Beauty.	11.4	13.5	11.1
598 Eldorado, 0 0 9 633 Unnamed Pink, 5.1 10.2 11.2 599 American Wonder, 0 1.6 2.1 6.34 Babbitt, 30.7 22.3 15.5 600 Boss, 30.7 22.5 22.8 635 Unknown variety, 28.6 28.5 27.8 601 Buffalo, 18. 9. 15.8 636 S. commersonii, 0 6.2 7.2 602 Clarbridge Russett, 0 2.7 2.2 637 Alexander's No. 1 Red. 0 5 603 Clarke's Pride, 42.5 3.8 48.3 638 Washington, 66.6 50. 45.5 48.6 38. 605 Dakota Red, 3.2 5.1 12.5 3.8 48.0 39 Orlando, 66.6 50. 41.5 45.5 48.6 605 Dakota Red, 3.1 17.6 17.9 64.1 Gemmder's No. 10. 44.8 54.5 48.8 607 Doe's Pride, 6.7 3.4 4.1 64.2 Pasadena, 10. 32.4 </td <td>597 Northern Star,</td> <td>0</td> <td>0</td> <td>1.2</td> <td>632 White Scotch King,</td> <td>60.</td> <td>52.7</td> <td>50.5</td>	597 Northern Star,	0	0	1.2	632 White Scotch King,	60.	52.7	50.5
599 American Wonder, 0 1.6 2.1 634 Babbitt, 30.7 22.8 635 Unknown variety, 28.6 28.5 27.8 601 Buffalo, 18. 9.8 15.8 636 S Unknown variety, 0 0 6.2 602 Cambridge Russett, 0 2.7 2.2 2637 Alexander's No. 1 Red. 0 .5 604 Crine's Lightning, 48.1 34.3 438 G38 Washington, 43.7 46.6 38.2 605 Dakota Red, 3.2 5.1 3.8 639 Orlando, 66.6 50. 61. 607 Doe's Pride, 6.7 3.4 41. 642 Pasadena, 10. 33.3 31.5 609 Gem of Arostook, 19.4 22.3 22.6 643 Alexander's No. 50, 60. 8.7 12.5 611 Green Mountain, 18.1 25. 20.5 646 Maule's Reliance, 33.3 41. 26.9 28.7 612 Harris Snowball, 7.9 4.7 8.7 647 Sunset, 51.5 25.5 33.8 41.	598 Eldorado,	0	0	.9	633 Unnamed Pink,	5.1	10.2	11.2
600 Boss, 30.7 22.5 22.8 635 Unknown variety, 28.6 28.5 27.8 601 Buffalo, 0 6.2 7.8 62 6.2 2.2 637 Alexander's No. 1 Red, 0 6.2 7.8 62 6.2 2.2 637 Alexander's No. 1 Red, 0 6.5 5.2 63.2 63.2 63.2 63.2 63.2 63.2 63.2 63	599 American Wonder,	0	1.6	2.1	634 Babbitt,	30.7	23.3	15.5
601 Buffalo, 18. 9.8 15.8 636 S. commersonii, 0 0.62 602 Cambridge Russett, 0 2.7 2.2 637 Alexander's No. 1 Red, 0 5.8 604 Crine's Lightning, 48.1 34.8 3638 Washington, 48.7 46.6 38.3 606 Dakota Red, 3.2 5.1 3.8 640 Alexander's No. 10, 44.8 54.5 41.8 607 Doe's Pride, 6.7 3.4 4.1 642 Pasadena, 10, 33.3 31.5 609 Gem of Aroostook, 19.4 22.3 22.6 643 Alexander's No. 50, 60. 8.7 12.5 611 Green Mountain, 18.1 25. 20.5 646 Maule's Reliance, 33.3 24.1 27.3 612 Harris Snowball, 7.9 4.7 8.7 647 Sunset. 51.5 25.3 34.6 613 Holborn Abundance, 68.1 1.1 9.5 648 Alexander's No. 4.7 33.3 4.1 22.5 26.5 646 Maule's Reliance, 33.3 4.1 27.5 26.5 Alexander's No. 7.	600 Boss,	30.7	22.5	22.8	635 Unknown variety,	28.6	28.5	27.8
602 Cambridge Russett, 0 2.7 2.2 637 Alexander's No. 1 Red, 0 5 603 Clarke's Pride, 12.5 3.4 84.3 638 Washington, 48.7 46.6 38.3 605 Dakota Red, 3.2 5.1 3.8 640 Alexander's No. 10, 44.8 54.5 48.8 606 Delaware, 21.3 17.6 17.9 641 Gem, 50. 47.5 41.6 607 Doe's Pride, 6.7 3.4 4.1 642 Passdena, 10. 33.3 31.5 609 Gem of Aroostook, 22.4 11.3 15.8 644 Alexander's No. 100, 32.4 46.9 28.7 611 Green Mountain, 15.1 11.9 14.8 645 Havana, 15.3 50. 25.3 612 Harris Snowball, 7.9 4.7 8.7 648 Alexander's No. 7, 47.3 33.3 41.5 613 Holobra Abundance, 6.8 11.1 9.5 648 Alexander's No. 7, 40.9 11.1 24.1 22.2 25.6 649 Alexander's No. 7,	601 Buffalo,	18.	9.8	15.8	636 S. commersonii,	0	0.	6.2
604 Crine's Lightning, d8.1 34. 34.8 d39 Orlando, d6.6 50. 61. 605 Dakota Red, d9.6 belaware, 21.3 17.6 17.9 d41 Gem. d6.6 50. 61. 607 Doe's Pride, d7.5 d1.6 17.9 d41 Gem. d1.6 17.5 d1.6 18.1 25. 22.3 22.6 d43 Alexander's No. 10, d8.2 24. 11.3 15.8 d44 Alexander's No. 100, d9.8 27 12.5 d69 Gem of Aroostook, d10 d11 Green Mountain, d11 Green Mountain, d12 Harris Snowball, d13 Holborn Abundance, d13 Holborn Abundance, d14 Ionia Seedling, d15 Interval 18.1 25.	602 Cambridge Russett,	0	2.7	2.2	637 Alexander's No. 1 Re-	d, 0	0	.5
604 Crine's Lightning, 48.1 34. 34.8 34.9 07 lando, 66.6 50. 61. 605 Dakota Red, 3.2 5.1 3.8 640 Alexander's No. 10. 44.8 54.5 48.8 606 Delaware, 21.3 17.6 17.9 641 Gem, 50. 47.5 41.6 607 Doe's Pride, 6.7 3.4 4.1 642 Pasadena, 10. 33.3 31.5 609 Gem of Arcostook, 19.4 22.3 22.6 643 Alexander's No. 50. 60. 8.7 12.5 610 Blight Proof, 15.1 11.9 14.8 645 Havana, 15.3 50. 25.3 611 Green Mountain, 18.1 25. 20.5 20.5 364 Maule's Reliance, 33.3 34.1 24.2 24.2 48.8 44.8 15.5 25.2 34.6 34.8 34.8 44.8 15.5 25.2 34.6 34.8 34.2 34.1 27.3 34.1 22.2 25.6 34.8 <td< td=""><td>603 Clarke's Pride,</td><td>12.5</td><td>3.3</td><td>48.3</td><td>638 Washington,</td><td>43.7</td><td>46.6</td><td>38.3</td></td<>	603 Clarke's Pride,	12.5	3.3	48.3	638 Washington,	43.7	46.6	38.3
605 Dakota Red, 3.2 5.1 3.8 640 Alexander's No. 10, 44.8 54.5 48.8 606 Delaware, 21.3 17.6 17.9 641 Gem, 10. 33.3 31.5 608 Enormous, 19.4 22.3 22.6 643 Alexander's No. 50, 60. 8.7 12.5 609 Gem of Aroostook, 22.4 411.3 15.8 644 Alexander's No. 100, 32.4 26.9 28.7 610 Blight Proof, 15.1 11.9 14.8 645 Havana, 15.3 50. 25.3 611 Green Mountain, 18.1 25. 20.5 646 Maule's Reliance, 33.3 24.1 25.3 612 Harris Snowball, 7.9 4.7 8.7 647 Sunset. 51.5 25. 34.6 613 Holborn Abundance, 35.1 35.1 35.2 2648 Alexander's No. 7, 40.9 11.1 24.1 615 Irish Cobbler,† 4. 2.2 2.5 650 Alexander's No. 7, 40.9 11.1 24.1 617 Late Blightless,	604 Crine's Lightning,	48.1	34.	34.8	639 Orlando,	66.6	50.	61.
606 Delaware, 21.3 17.6 17.9 641 Gem, 50. 47.5 41.6 607 Doe's Pride, 6.7 3.4 4.1 642 Pasadena, 10. 33.3 31.5 608 Enormous, 19.4 22.3 22.6 643 Alexander's No. 50. 60. 8.7 12.5 609 Gem of Arcostock, 15.1 11.8 15.8 644 Alexander's No. 10. 32.4 26.9 28.7 610 Blight Proof, 15.1 11.9 14.8 645 Havana, 15.3 50. 25.3 611 Green Mountain, 18.1 25. 20.5 646 Maule's Reliance, 33.8 34.1 27.3 25.3 613 Holborn Abundance, 68. 11.1 9.5 648 Alexander's No. 7. 4.7 33.3 41.5 615 Irish Cobbler,† 4. 2.2 2.5 650 Alexander's No. 7. 40.9 11.1 24.1 616 Keeper, 1.1 2.1 1.3 651 Alexander's Seedling, 21.5 15. 12.5 617 Late Blightless, 10.5 4.4 6.4 652	605 Dakota Red,	3.2	5.1	3.8	640 Alexander's No. 10,	44.8	54.5	48.8
607 Doe's Pride, 6.7 3.4 4.1 [642 Pasadena, 10. 33.3 31.5 608 Enormous, 19.4 22.3 22.6 [643 Alexander's No. 50, 60. 8.7 12.5 609 Gem of Aroostook, 22.4 11.3 15.8 [644 Alexander's No. 100, 32.4 26.9 28.7 610 Blight Proof, 15.1 11.9 14.8 [645 Havana, 15.3 50. 25.3 611 Green Mountain, 7.9 4.7 8.7 [647 Sunset, 51.5 25. 34.6 613 Holborn Abundance, 6.8 [11.] 9.5 [648 Alexander's No. 4, 47.3 33.3 41.3 614 Ionia Seedling, 35.1 35.1 35. 32.2 [649 Alexander's No. 7, 40.9 11.1 24.1 615 Irish Cobbler,† 4. 2.2 2.5 [65] Alexander's Seedling, 12.5 [15.] 15. 12.5 617 Late Blightless, 10.5 4.4 62.4 [652 Prof. Maerker, 0 0 1.1 618 Norcross, 39. 21. 29.3 [653 Rural Blush, 3.1 3.1 3.4 4.9	606 Delaware,	21.3	17.6	17.9	641 Gem,	50.	47.5	41.6
609 Enormous, 19.4 22.3 22.6 643 Alexander's No. 50, 60. 8.7 12.5 609 Gem of Aroostook, 15.1 15.8 644 Alexander's No. 100, 32.4 26.9 28.7 610 Blight Proof, 15.1 11.9 14.8 645 Havana, 15.3 50. 25.3 611 Green Mountain, 18.1 25. 20.5 646 Maule's Reliance, 33.3 24.1 27.3 612 Harris Snowball, 7.9 4.7 8.7 647 Sunset, 51.5 25. 28.6 613 Holborn Abundance, 68. 11.1 9.5 648 Alexander's No. 4, 4.7.3 33.3 4.1 615 Irish Cobbler,† 4. 2.2 2.5 650 Alexander's Seedling, 12.5 15. 15. 617 Late Blightless, 10.5 4.4 6.4 652 Prof. Maerker, 0 0 1.1 618 Norcross, 39. 21. 29.3 653 Rural Blush, 3.1 3.4 4.9	607 Doe's Pride,	6.7	3.4	4.1	642 Pasadena,	10.	33.3	31.5
609 Gem of Aroostook, 22.4 11.3 15.8 644 Alexander's No. 100, 32.4 26.9 28.7 610 Blight Proof, 5.1 11.9 14.8 645 Havana, 15.3 50. 25.3 611 Green Mountain, 18.1 25. 20.5 646 Maule's Reliance, 33.3 24.1 27.3 612 Harris Snowball, 7.9 4.7 8.7 647 Sunset. 33.3 24.1 27.3 613 Holborn Abundance, 6.8 11.1 9.5 648 Alexander's No. 4, 47.3 33.3 41.3 615 Irish Cobbler,† 4. 2.2 2.5 650 Alexander's Seedling, 12.5 14.3 1.2 617 Late Blightless, 10.5 4.4 6.4 652 Prof. Maerker, 0 0 1.1 618 Norcross, 39. 21. 29.3 653 Rural Blush, 3.1 3.4 4.9	608 Enormous,	19.4	22.3	22.6	643 Alexander's No. 50,	60.	8.7	12.5
610 Blight Proof, 611 Green Mountain, 612 11.9 14.8 645 Havana, 15.3 50, 25.3 611 Green Mountain, 612 Harris Snowball, 7.9 4.7 8.7 647 Sunset, 51.5 25. 34.6 613 Holborn Abundance, 68 11.1 9.5 648 Alexander's No. 4, 47.3 33.3 41.3 614 Ionia Seedling, 615 Irish Cobbler, 4. 2.2 2.5 650 Alexander's No. 7, 40.9 11.1 24.1 616 Keeper, 1.1 2.1 1.3 651 Alexander's Seedling, 12.5 14.3 1.2 616 Keeper, 1.1 2.1 1.3 653 Rural Blush, 3.1 3.4 4.9 618 Norcross, 39. 21. 29.3 653 Rural Blush, 3.1 3.4 4.9	609 Gem of Aroostook,	22.4	11.3	15.8	644 Alexander's No. 100,	32.4	26.9	28.7
611 Green Mountain, 18.1 25. 20.5 646 Maule's Reliance, 33.3 24.1 27.3 612 Harris Snowball, 7.9 4.7 8.7 647 Sunset, 51.5 52.5 34.6 613 Holborn Abundance, 6.8 11.1 9.5 648 Alexander's No. 4, 47.3 33.3 41.3 615 Irish Cobbler, 7 4. 2.2 2.6 650 Alexander's No. 7, 40.9 11.1 24.1 616 Keeper, 1.1 2.1 1.3 651 Alexander's Seedling, 21.5 15. 12.5 617 Late Blightless, 10.5 4.4 6.4 652 Prof. Maerker, 0 0 1.1 618 Norcross, 39. 21. 29.3 653 Rural Blush, 3.1 3.4 4.9	610 Blight Proof,	15.1	11.9	14.8	645 Havana,	15.3	50.	25.3
612 Harris Snowball, 7.9 4.7 8.7 647 Sunset. 51.5 25. 34.6 613 Holborn Abundance, 6.8 11.1 9.5 648 Alexander's No. 4.7.3 33.3 41.3 614 Ionia Seedling, 35.1 35. 32.2 649 Alexander's No. 7. 40.9 11.1 24.1 615 Irish Cobbler,† 4. 2.2 2.5 650 Alexander's Seedling, 12.5 14.3 1.2 616 Keeper, 1.1 2.1 1.3 651 Alexander's Seedling, 21.5 15. 12.5 617 Late Blightless, 10.5 4.4 6.4 652 Prof. Maerker, 0 0 1.1 618 Norcross, 39. 21. 29.3 653 Rural Blush, 3.1 3.4 4.9	611 Green Mountain,	18.1	25.	20.5	646 Maule's Reliance,	33.3	24.1	27.3
613 Holborn Abundance, 6.8 11.1 9.5 648 Alexander's No. 4, 47.3 33.3 41.3 614 Inia Seedling, 35.1 35. 32.2 649 Alexander's No. 7, 40.9 11.1 24.1 615 Irish Cobbler, 4 2.2 2.5 650 Alexander's Seedling, 12.5 14.3 1.2 616 Keeper, 1.1 2.1 1.3 651 Alexander's Seedling, 21.5 15. 12.5 617 Late Blightless, 10.5 4.4 6.4 652 Prof. Maerker, 0 0 1.1 618 Norcross, 39. 21. 29.3 653 Rural Blush, 3.1 3.4 4.9	612 Harris Snowball,	7.9	4.7	8.7	647 Sunset.	51.5	25.	34.6
614 Ionia Seeding, 35.1 35. 32.2 649 Alexander's No. 7, 40.9 11.1 24.1 615 Irish Cobbler,† 4. 2.2 2.5 650 Alexander's Seedling, 12.5 14.3 1.2 616 Keeper, 1.1 2.1 1.3 651 Alexander's Seedling, 21.5 15. 15. 617 Late Blightless, 10.5 4.4 6.4 652 Prof. Maerker, 0 0 1.1 618 Norcross, 39. 21. 29.3 653 Rural Blush, 3.1 3.4 4.9	613 Holborn Abundance,	6.8	11.1	9.5	648 Alexander's No. 4,	47.3	33.3	41.3
616 Keeper, 1.1 2.1 2.3 650 Alexander's Seedling, 12.5 14.3 1.2 617 Late Blightless, 10.5 4.4 6.4 652 Prof. Maerker, 0 0 1.1 618 Norcross, 39. 21. 29.3 653 Rural Blush, 3.1 3.4 4.9	614 Ionia Seedling,	35.1	35.	32.2	649 Alexander's No. 7,	40.9	11.1	24.1
617 Late Blightless, 10.5 4.4 6.4 652 Prof. Maerker, 0 0 1.1 618 Norcross, 39. 21. 29.3 653 Rural Blush, 3.1 3.4 4.9	615 Irish Cobbler,†	4.	2.2	2.5	650 Alexander's Seedling,	12.5	14.3	1.2
617 Late Bightless, 10.5 4.4 6.4 652 Prof. Maerker, 0 0 1.1 618 Norcross, 39. 21. 29.3 653 Rural Blush, 3.1 3.4 4.9	616 Keeper	1.1	2.1	1.3	651 Alexander's Seedling,	21.5	15.	12.5
618 Norcross, 39. 21. 29.3 653 Rural Blush, 3.1 3.4 4.9	617 Late Blightless,	10.5	4.4	6.4	652 Prof. Maerker,	_ 0	_ 0	1.1
	618 Norcross,	39.	21.	29.3	653 Rural Blush,	3.1	3.4	4.9

TABLE VII. PERCENTAGE OF TUBERS ROTTEN, CLAY LOAM SOIL, 1905

FIELD NUMBER AND NAME	No.1	No.2	Total	FIE	LD NUMBER AND NAME	No.1	No.2	Total
500 Geheimrat Theil, 501 Sophie, 502 Dabersche, 503 Richter's Imperator, 504 Magnum Bonum, 505 Irene, 506 Prof. Maerker, 507 Silesia, 508 Max Eyth, 509 Mohort, 510 Gastold, 511 Pres. Krueger, 512 Prof. Wohltmann,	15.6	21.7	17.3	528	Belle de Juillet t	25	59.4	41.3
501 Sophie.	7.9	8	8.5	529	Quar de la Halle t	92.3	93.8	83.1
502 Dabersche.	54.5	51.8	48.8	531	Ninety-fold.*	82.3	50.0	62.7
503 Richter's Imperator.	28.6	25.	28.2	532	Epicure.*	23.5	193	18.2
504 Magnum Bonum.	21.9	20.2	16.2	533	Supreme,†	0	28.6	27.7
505 Irene,	0	0	0	534	Windsor Castle.†	24.2	18.8	30.
506 Prof. Maerker,	6.6	8.1	7.6	535	Discovery.	0	0	18.
507 Silesia,	28.	12.3	9.5	536	Sir John Llewellvn.*	ŏ	. 0	71.4
508 Max Eyth,	16.6	15.1	19.4	537	King Edward VII.	51.7	47.4	46.
509 Mohort,	3.1	0	3.2	538	Cramond Blossom.	58.9	63.	60.1
510 Gastold,	12.3	12.	8.1	540	Factor,	59.8	64.5	59.6
511 Pres. Krueger,	13.2	16.2	19.6	541	Duke of York.	75.5	77.7	77.9
512 Prof. Wohltmann,	0	0	3.	542	Langworthy,	10.8	12.6	18.9
513 Topaz,†	3.3	13.7	10.7	543	Tyne Kidney,	50.	51.1	51.1
514 Boncza,	19.6	9.8	10.2	544	Table Talk,	48.9	52.8	52.1
515 Leo,	0	0	18.1	549	Northern Star.	28.6	28.2	26.1
516 Fuerst Bismark,	1.9	3.3	3.3	550	Pink Blossom,	47.2	52.1	46.1
517 Apollo,	0	4.3	4.7	551	Peace Maker,	5.	0	4.4
518 Gelbf. Sp. Kartoffel,	36.8	22.9	26.9	591	British Queen,†	38.8	35.9	32.7
519 Eigenheimer,	25.7	21.4	20.9	592	Royal Kidney,	14.	12.2	11.6
520 Landskroon,†	0	12.2	10.6	593	Empire Kidney,	13.4	8.2	12.4
521 Eureka.	18.1	0	4.6	594	Evergood,	0	3.5	2.6
522 Malador,	10.4	6.2	8.8	595	Goodfellow,	1.2	0	2.2
509 Mohorf, 510 Gastold, 511 Pres. Krueger, 512 Prof. Wohltmann, 513 Topaz,† 514 Borcza, 515 Lec, 516 Fuerst Bismark, 517 Apollo, 518 Gelbf. Sp. Kartoffel, 519 Eigenhelmer, 520 Landskroon,† 521 Eureka. 522 Malador, 523 Daisy, 524 Belle de Fontenay,* 525 Brandale,* 526 Early Rose,* 527 Chave (Shaw),	15.9	4.7	8.9	596	Up-to-Date,†	38.	42.4	38.3
524 Belle de Fontenay,*	0	73.3	49.	598	Eldorado,	0	0	0
525 Brandale,*	100	0	81.	599	American Wonder,	57.9	42.5	41.5
526 Early Rose,*	86.2	98.1	88.5	600	Boss,	72.9	75.5	69.9
527 Chave (Shaw),	98.1	95.6	95.7	601	Buffalo.	70.9	79.4	72.2

Note.—No. 1, 85 grams (3 oz.) or more in weight; No. 2, 45-85 grams (1.5-3 oz.) in weight; total, Nos. 1 and 2 with culls weighing less than 45 grams.

TABLE VII-Continued.

FIELD NUMBER AND NAME	No.1	No.2	Total	FIEL	D NUMBER AND NAME	No.1	No.2	Total
602 Cambridge Russett,	62.9	57.7	59.2		Norcross,	78.9	62.8	72.7
603 Clarke's Pride, 604 Crine's Lightning,	73.5	64.9	68.9	621	Orange Blossom,	60.	61.8	54.9
604 Crine's Lightning,	78.8	58.8	72.7	623	R. N. Y. No. 2,	45.9	43.7	44.5
605 Dakota Red, 606 Delaware,	45.2	42.1	39.2	624	Scab Proof,	62.1	45.7	54.4
606 Delaware,	89.3	61.3	72.6	625	Sir W. Raleigh,	72.2	63.2	61.7
607 Doe's Pride, 608 Enormous,	30.	37.5	31.9		State of Maine,	42.1	36.8	32.7
608 Enormous,	72.4	68.7	67.2		Swiss Snowflake,	44.1	46.1	43.1
609 Gem of Aroostook,	82.8	74.5	76.6	629	Vermont Gold Coin,	81.8	74.5	73.5
610 Blight Proof,	52.9	32.5	45.3		Westfield,	51.5	39.7	48.1
611 Green Mountain,	91.4	7.3	74.9		White Beauty,	64.	48.8	62.3
612 Harris Snowball,	78.5	76.2			White Scotch King,	90.9	76.3	79.9
613 Holborn Abundance,	34.2	38.8			Unnamed Pink,	44.8	45.6	44.9
614 Ionia Seedling,	86.5	83.5			Unknown variety,	90.3	85.2	86.6
615 Irish Cobbler,†	52.	47.7	44.4	652	Prof. Maerker,	10.3	10.4	11.3
616 Keeper,	9.4	14.	12.1	653	Rural Blush,	33.	53.8	55.8
617 Late Blightless, 618 Norcross,	36.1	32.4		654	Rural Blush, June,	33.3	34.5	29.6
618 Norcross,	66.9	78.3		1	Dakota Red,	28.1	37.2	31.5
619 Million Dollar,	53.3	30.7	41.9	9	Rust Proof,	66.	83.3	71.5

Note.—No. 1, 85 grams (3 oz.) or more in weight; No. 2, 45-85 grams (1.5-3 oz.) in weight; total, Nos. 1 and 2 with culls weighing less than 45 grams.

TABLE VIII. PERCENT OF VINES GREEN SEPTEMBER 11—OCTOBER 2, 1905, GRAVELLY CLAY LOAM

FIELL	NUMBER AND NAME DAT	E11	14	16	19	20	23	26	28	30	2
108	Seedling	. 85	85	85	80	75	75	75	75	70	55
111	"	. 90	85	85	75	70	60	50	50	40	15
113	44	. 85	80	75	70	55	35	25	20	15	5
121	44	. 85	82	80	75	60	40	30	20	12	3
133	46	. 95	90	90	85	75	70	60	55	30	2
141	44	. 90	80	80	75	70	65	50	50	35	15
1	Dakota Red	. 75	65	60	12	3	0				
2	Sir Walter Raleigh	. 40	30	25	10	0	0				
3	Green Mountain	. 60	40	30	10	0	0				
4	June	, 90	80	75	50	40	10	3	3	2	- 0
5	Mammoth Gem	. 70	60	55	15	10	- 0				
6	Mexican	. 85	80	75	12	5	0				
7	Minister	ripe									
8	New Queen	. 60	40	30	10	0	0				
9	Rust Proof	. 90	85	85	75	70	70	65	52	40	15
10	Peruvian		85	80	25	5	0				
11	Squier	20	10	10	8	0	0				
12	State of Maine	. 50	40	35	15	0	0				
13	S. stoloniferum	. dea									
14	Discovery	. 75	70	70	70	70	65	65	65	65	60
16	S. polyadenium	. 95	90	90	90	90	90	90	85	85	85
17	Red Sport of Mexican		95	95	90	80	30	15	12	5	(
18	Early Rose		60	50	15	- 3	0				
19	Norcross Seedling	. 60	60	55	25	10	0				
	S. tuberosum (wild species	90	90	90	90	90	90	90	90	90	90
	S. verrucosum		80	80	80	75	75	75	75	75	78
	S. etuberosum		17	10	10	3	0				
	S. maglia	. 10	10	8	5	0					

TABLE IX. PERCENT OF TUBERS ROTTEN, GRAVELLY CLAY LOAM, 1905

FIELD NUMBER AND NAME	No. 1	No. 2	Total
08 Seedling	19.7		
11 "	19.4	47.3	22.1
15 "		62.9	54.8
21	65.2	50.	45.1
33 "	64.9	70.8	64.6
41 "	83.	62.2	76.7
1 Dakota Red	43.4	80.	60.1
2 Sir Walter Raleigh	3.5	13.5	9.5
2 Sir Walter Raleigh 3 Green Mountain	39.1	50.	50.
4 June	81.5	69.2	76.4
5 Mammoth Gem	3.9	0,	2.8
6 Mexican	71.1	57.1	67.2
7 Minister	0	0	18.91
8 New Queen	49.2	63.8	51.3
9 Rust Proof	61.1	67.3	56.8
10 Peruvian	20.8	51.8	32.2
- Continue	11		75.51
11 Squier	30.	70.4	39.
13 S. stoloniferum	65.5	57.6	64.
			66.61
14 Discovery	100.	0	3.4
	0	0	0
	0	0	23.21
8 Early Rose	49.2	57.8	49.6
9 Norcross Seedling 20 S tuberosum (wild species)	62.1	77.4	66.6
	0	0	Ő
2 N. Claderosum	0	0	Ŏ
	0	0	ő
23 S. verrucosum	no tubers		

There were no No. 1 or 2 tubers.

ALPHABETICAL LIST OF VARIETIES. SOURCE, SEASON AND FOR WHAT RECOM-MENDED.

No. V:	ariety			a- For what recommended
637 Alex	No.1 Red,	T. A. Scarlett, Edinburgh, Scot	7	high dis. resistance
649 Alex	No 7 Red	O H Alexander, CharlotteAle	. 5	resistance to disease for trial
643 Alex	No.50 Red	O. H. Alexander, CharlotteAlex	. 5	66 66
644 Alex	No.100Red	O. H. Alexander, Charlotte Alexander, Charlotte	. 5	46 44
651 Alex.	Seedling	O. H. Alexander, CharlotteAlex	. 5	66 46
517 Apol	lo,	B. A. Corbett, Colebrook, N. H. Prof. Eckenbrecker, Berlin, Germany. Pau E. A. Rogers, Brunswick, Me.	. 5	high dis. resistance res. to rot and scab
524 Belle	de Font.,	E. A. Rogers, Brunswick, Me. Vilmorin Andrieux & Cie., Paris, France.	6	good dis. resistance
610 Bligh	t Proof.	C F Vanderhoff Filming, Paris, France	. 2	for trial
514 Bone 600 Boss	za,	Prof. Eckenbrecker, Berlin, GermanyDolk	6	freedom from blight res. to rot and scab
525 Bran 574 Briti	dale,	L. B. Surdam, No. Bennington, Vt Surd Vilmorin, Andrieux & Cle., Paris, France Cambridge Univ. Cambridge Prise.	4	res. to blight & rot for trial
591 Briti	sh Omoon	A Bis also Chiv., Cambridge, Eng Fdly	. 2	moderate dis. res. fair dis. resistance
602 Camb	Russet.	Frank Paddock Down N. W.	6	res. to blight & rot resistance to scab
539 Chas	e (Shaw), Fidler,	Vilmorin Andrieux & Cle, Paris, France T. A. Scarlett, Edinburgh, Scot	2	resist, to late blight
576 Chas.	Fidler, e's Pride.	Thorna Andreux & Cle, Paris, France. T. A. Scarlett, Edinburgh, Scot. Cambridge Univ., Cambridge, Eng. E. E. Parkhurst, Presque Isle, Me.	6	disease resistance fair dis. resistance
585 Cram	Blossom	Cambridge Univ. Combridge, Scot.	3	resistance to blight disease resistance
604 Crine	's Light.,	R. V. Crine, Morganyille, N. J.	3	for trial resistance to blight
502 Daber	sche,	R. V. Crine, Morganville, N. J. T. A. Scarlett, Edinburgh, Scot. Prof. Eckenbrecker, Berlin, Germany. U. J. Mansholt, Groningen, Holland. Geo. W. P. Jerrard, Carlbou, Me. T. A. Scarlett, Edinburgh, Scot. T. A. Scarlett, Edinburgh, Scot.	6	med. disease resist. standard food potato
605 Dako	a Red,	U. J. Mansholt, Groningen, Holland Geo. W. P. Jerrard, Caribou, Me.	7	resist. to late blight high resist, to rot
553 Dal.	Early,	T. A. Scarlett, Edinburgh, Scot	2	high dis. resistance

NTo	Wantaka	There where there ?	Origina-		
No.	Variety	From whom obtained T. A. Scarlett, Edinburgh, Scot T. A. Scarlett, Edinburgh, Scot Geo. W. P. Jerrard, Caribou, Me. Sutton & Sons, Reading, Eng. Cambridge Univ., Cambridge, Eng. E. Parkhurst, Presque isle, Me. Cambridge Univ., Cambridge, Eng. Cambridge Univ., Cambridge, Eng. T. A. Scarlett, Edinburgh, Scot Cambridge Univ., Cambridge, Eng Cambridge, Univ., Cambridge, Eng Cambridge, Univ., Cambridge, Eng Vilmorin Andrieux & Cle., Paris, Fra U. J. Mansholt, Groningen, Holland.	tor	son	recommended
545	Dal. Kidney,	T. A. Scarlett, Edinburgh, Scot		4	66 66 86
552	Dal. Red,	T. A. Scarlett, Edinburgh, Scot		7	high dis. resistance
606	Delaware,	Geo. W. P. Jerrard, Caribou, Me		7	disease resistance
535	Discovery,	Sutton & Sons, Reading, Eng	Sut.	7	high dis. resistance
565	Discovery,	Cambridge Univ., Cambridge, Eng	Sut.	7777772	66 66 66
607	Doe's Pride,	E. E. Parkhurst, Presque Isle, Me		7	disease resistance
580	Duch. of Corn.,	Cambridge Univ., Cambridge, Eng		2	
281	Duke of Roth.,	Cambridge Univ., Cambridge, Eng			for trial
041	Duke of York,	T. A. Scarlett, Edinburgh, Scot		2	good dis. resistance
570	Dum Model	Cambridge Univ., Cambridge, Eng		2	7
598	Dum. Model,	Vilmoring Andrian & Cia Basis Fine		1 2	disease resistance
510	Early Rose, Eigenheimer,	II I Mangholt Coopingen Helland	nce	2	for trial
598	Eldorado	U. J. Mansholt, Groningen, Holland.	Edla	4	resist. to late blight
593	Emp Kidney	A Findley Auchtermuchty Scot	Edin.		high dis. resistance
590	Emp Organ	Cambridge Univ Cambridge Fre	Eury.	7	disease resistance for trial
608	Enormons	Geo W P Jarrard Caribon Ma		7	disease resistance
532	Epicure.	Sutton & Sons Reading Eng.	Sut	5	disease resistance
521	Eureka	II J. Mansholf Groningen Holland		2	resist. to late blight
570	Evergood.	Cambridge Univ. Cambridge Eng	Edly	7 2 3 7	high dis. resistance
594	Evergood.	Vilmorin Andrieux & Cle, Paris, Fra U. J. Mansholt, Groningen, Holland. A. Findlay, Auchtermuchty, Scot. A. Findlay, Auchtermuchty, Scot. Cambridge Univ., Cambridge, Eng. Geo. W. P. Jerrard, Caribou, Me. Sutton & Sons, Reading, Eng. U. J. Mansholt, Groningen, Holland. Cambridge Univ., Cambridge, Eng. A. Findlay, Anchtermuchty, Scot. T. A. Scarlett, Edinburgh, Scot. Cambridge Univ., Cambridge, Eng. Prof. Eckenbrecker, Berlin, Germany O. H. Alexander, Charlotte, Vt. Geo. W. P. Jerrard, Carlbou, Me. Cambridge Univ., Cambridge, Eng. A. Findlay, Auchtermuchty, Scot. Geo. W. P. Jerrard, Carlbou, Me. Joseph Harris Co., Coldwater, N. Y. O. H. Alexander, Charlotte, Vt. T. A. Scarlett, Edinburgh, Scot. W. T. Macoun, Ottawa, Can Cambridge Univ., Cambridge, Eng. Cambridge Univ., Cambridge, Eng. Cambridge Univ., Cambridge, Eng. Edwin F. Dibble, Honeove Falls, N. Prof. Eckenbrecker, Berlin, Germany Geo. W. P. Jerrard, Carlbou, Me. Scan, L. Cambridge, Eng. Cambridge Univ., Cambridge, Eng. Edwin F. Dibble, Honeove Falls, N. Prof. Eckenbrecker, Berlin, Germany Geo. W. P. Jerrard, Carlbou, Me. Vt. Exp. Sta., Burlington, Vt	Fdly	6	Ties Tesistance
540	Factor.	T. A. Scarlett, Edinburgh, Scot.		7	for trial
581	Factor,	Cambridge Univ., Cambridge Eng.	Chan.	7	good dis. resistance
575	Fidler's Seed.	Cambridge Univ., Cambridge Eng.		6	for trial
568	Flour Ball,	Cambridge Univ., Cambridge, Eng.	Sut.	7	high dis. resistance
516	Fuerst Bis.,	Prof. Eckenbrecker, Berlin, Germany	Cimb.	7	high dis. resistance dis. resist. to rot
510	Gastold,	Prof. Eckenbrecker, Berlin, German	v Dolk.	6	general dis resist.
500	Geh. Theil.,	Prof. Eckenbrecker, Berlin, German	v. Rich.	7	high dis. resistance typical yelfleshed
518	Gelbf. Sp. Kart.	Prof. Eckenbrecker, Berlin, Germany	Cimb.	7	typical yelfleshed
641	Gem,	O. H. Alexander, Charlotte, Vt		4	for trial
609	Gem of Aroos.,	Geo. W. P. Jerrard, Caribou, Me		7	disease resistance
571	Goodfellow,	Cambridge Univ., Cambridge, Eng	Fdly.	7	high dis. resistance
595	Goodfellow,	A. Findlay, Auchtermuchty, Scot	Fdly.	7	
611	Green Mt.,	Geo. W. P. Jerrard, Caribou, Me		6	resistance to rot
612	H. Snowball,	Joseph Harris Co., Coldwater, N. Y.	,	6	res. to blight & rot
640	Havana,	O. H. Alexander, Charlotte, Vt		47	for trial
004	Heatner Blos.,	T. A. Scarlett, Edinburgh, Scot		6	fair dis. resistance high dis. resistance
567	Ideal Abund.,	W. T. Macoun, Ottawa, Can	··········	9	nigh dis. resistance
501	Imp Eldner	Cambridge Univ., Cambridge, Eng.	Dobl.	4	for trial
614	Imp. Kidney,	Edwin F Dibble Honoro Falls N	Y. DODI.	6	high blight resist.
505	Irone	Prof Fekenbrooker Barlin Germany	Paul	6	resist. to rot & scab
615	Irish Cobbler	Geo W P Jerrard Caribon Me	1 10018.	2	resistance to rot
654	June.	Vt Exp Sta Burlington, Vt.		7	res. to blight & rot
616	Keeper.	B. A. Corbett, Colebrook, N. H		6	resist, to rot & scab
537	King Edw. VII	T. A. Scarlett, Edinburgh, Scot	Btlr.	4	for trial
583	King Edw. VII	Cambridge Univ., Cambridge, Eng.,	Btlr.	4	good dis. resistance
520	Landskroon,	U. J. Mansholt, Groningen, Holland.		3	resist. to late blight high dis. resistance
542	Langworthy,	T. A. Scarlett, Edinburgh, Scot		7	high dis. resistance
586	Langworthy,	Cambridge Univ., Cambridge, Eng		7	disease resistance
617	L. Blightless,	Geo. W. P. Jerrard, Caribou, Me. Vt. Exp. Sta., Burlington, Vt. B. A. Corbett, Colebrook, N. H. T. A. Scarlett, Edinburgh, Scot., Cambridge Univ., Cambridge, Eng. U. J. Mansholt, Groningen, Holland. T. A. Scarlett, Edinburgh, Scot., Cambridge, Univ., Cambridge, Eng. Marshall & Noble, Lyons, N. Y		17	freedom from blight
515	Leo,	Prof. Eckenbrecker, Berlin, German	y	6	some dis. res; pro've resist. to late blight
504	Mag. Bonum,	Prof. Eckenbrecker, Berlin, German	ySut.	6	resist. to late blight
522	Malador, Maule's Rel'ce	U. J. Mansholt, Groninger, Holland.		7	
646	Maule's Rel'ce	O. H. Alexander, Charlotte, Vt Prof. Eckenbrecker, Berlin, German	13.00	6	for trial
508	Max Eyth,	Prof. Eckenbrecker, Berlin, German	yCimb.	7	high res. to late bl't
530	May Queen,	Sutton & Sons, Reading, Eng	···· Sut.	1	for trial
555	Mid. Early,	Sutton & Sons, Reading, Eng T. A. Scarlett, Edinburgh, Scot Flansburgh & Pierson, Leslie, Mich		4	high dis. resistance
619	Million Dollar	, Flansburgh & Pierson, Leslie, Mich	T Dolle	6	good dis. resistance high res. to rot&scab
570	Mohort, Monarch,	Combridge Univ. Combridge Eng.	y. Dolk.	1	for trial
560	Monor Moles	T A Searlett Edinburgh Seet	·····CII.	7	high dis resistance
521	Money Maker, Ninety-fold,	Sutton & Song Reading Eng	Sut	1	high dis. resistance some dis. resistance
560	Ninety-fold,	Cambridge Univ Cambridge Eng	Sut	1	ii ii iiiiiiiiiiiiiiiiiiiiiiiiiiiiiiii
615	Norcross,	D C Hicks No Clarendon Vt	J.S.P.Co.	6	resistance to blight
620	Norcross,	, Flansburgh & Pierson, Leslie, Mich Prof. Eckenbrecker, Berlin, German Cambridge Univ., Cambridge, Eng T. A. Scarlett, Edinburgh, Scot Sutton & Sons, Reading, Eng Cambridge Univ., Cambridge, Eng D. C. Hicks, No. Clarendon, Vt E. A. Rogers, Brunswick, Me T. A Scarlett Edinburgh, Scot	J.S.P.Co.	6	good dis. resistance
549	North, Star,	T. A. Scarlett, Edinburgh, Scot	Fdly.	7	disease resistance
_			-		
					2

No. Variety	From whom obtained Originator	Sea- For what son recommended
573 North. Star, 597 North. Star, 621 Or. Blossom, 639 Orlando, 642 Pasadena,	Cambridge Univ., Cambridge, Eng. Fdly. A. Fladlay, Auchtermuchty, Scot. Fdly. W. E. Robinson, Newport, Vt. O. H. Alexander, Charlotte, Vt. O. H. Alexander, Charlotte, Vt.	8 high dis. resistance 6 high dis. resistance 6 res. to blight & rot 4 for trial
511 Pres Krueger	O. H. Alexander, Charlotte, Vt. O. H. Alexander, Charlotte, Vt. T. A. Scarlett, Edinburgh, Scot. T. A. Scarlett, Edinburgh, Scot. T. A. Scarlett, Edinburgh, Scot. Prof. Eckenbrecker, Berlin, Germany. Cimb.	7 high dis. resistance fair dis. resistance high dis. resistance productiveness
512 Prof. Wohlt., 529 Q. de la Halle, 622 Quick Lunch.	Vilmorin Andrieux & Cie., Paris, France W. Atlee Burnee, Philadelphia, Pa	6 resist., espec. scab 6 high dis. resistance 7 high res. to rot&scab 3 for trial
562 Radium, 559 Red Kidney, 503 Richter's Imp., 588 Royal Kidney, 592 Royal Kidney,	T. A. Scarlett, Edinburgh, Scot. T. A. Scarlett, Edinburgh, Scot. Prof. Eckenbrecker, Berlin, Germany, Rich. Cambridge Univ. Cambridge, Eng. Fdly. A. Findlay, Auchtermuchty, Scot. Fdly.	1 res. to blight & rot high dis. resistance 2 disease resistance 7 res. to scab; prolific 4 high dis. resistance
623 R.N.Y.No. 2, 624 Scab Proof, 547 Scot. Queen,	A Printary Auchiermuchty, Scot. Fdly. W. T. Macoun, Ottawa, Can. Geo. W. P. Jerrard, Carlbou, Me. John A. Sulzer Seed Co., LaCrosse, Wis. T. A. Scarlett, Edinburgh, Scot. T. A. Scarlett, Edinburgh, Scot.	4 " " " " " " " " " " " " " " " " " " "
554 Sharp's Exp., 507 Silesia, 536 Sir J. Llew., 584 Sir J. Llew., 561 Sir T. Lipton,	T. A. Scarlett, Edinburgh, Scot	2 high dis. resistance 8 fair dis. resistance 1 tendency to sport 2 high dis. resistance
625 Sir W. Raleigh,	Geo. W. P. Jerrard, Caribou, Me.	7 high dis. resistance 6 resistance to rot 7 for trial 7 fair dis. resistance 2 disease resistance 6 blight resistance
566 Supreme.	Prof. Eckenbrecker, Berlin, Germany. Cimb. T. A. Scarlett, Edinburgh, Scot. E. A. Rogers, Brunswick, Me. Vt. Expl. Sta., Burlington, Vt. O. H. Alexander, Charlotte, Vt. Sutton & Yous, Reading, Eng. Cambridge Univ., Cambridge, Eng.	7 disease resistance
628 S. Snowflake,	W. T. Macoun, Ottawa, Can	beinigkeit beinigkeit high dis. resistance '' '' '' '' '' '' ''
633 Unnamed Pink, 635 Seedling, 572 Up-to-Date, 596 Up-to-Date,	J. R. Lawrence, N. Middleboro, Mass. T. A. Scarleft, Edinburgh, Scot. Prof. Eckeporecker, Berlin, Germany. Dolk. T. A. Scaylett, Edinburgh, Scot. R. H. Pristol, Vergennes, Vt. Chas M. Clark, Fawlet, Vt. Cambridge Univ., Cambridge, Eng. Fdly. A. Findlay, Auchtermuchty, Scot. Fdly. W. Affee Burpee, Philadelphia, Pa O. H. Alexander, Charlotte, Vt. T. A. Scaylett, Edinburgh, Scot.	7 " " " 6 res.to blight, rot, scab 6 resistance to rot 8 mod. disease resist. 8 " " "
631 White Beauty	D. C. Hicks, No. Clarendon, Vt	resistance to blight high dis. resistance res.to blight, rot&scab
	T. A. Scarlett, Edinburgh, Scot. N. P. Johnson, Crookston, Minn. Sutton & Sons, Reading, Eng. Sut.	6 blight & scab resist. 4 med. disease resist. 7 2 high table quality
Originators.—Alex	, Alexander; Btlr., Butler; Ctr., Center; C	hap., Chapman: Cimb

Originators.—Alex., Alexander; Btlr., Butler; Ctr., Center; Chap., Chapman; Cimb., Climbal; Dobl., Doblie; Dolk., Dolkowski; Fdly., Findlay; Har., Harris; J. S. P. Co., Johnson Seed Potato Co.; Paul., Paulsen; Rich., Richter; Surd., Surdam; Sut., Sutton & Sons. Season—1, very early; 2, early; 3, medium early; 4, medium; 5, medium to late; 6, medium late; 7, late; 8, very late.